

# **REQUIREMENT MODEL FOR HATYAI TECHNICAL COLLEGE SOCIAL NETWORK LEARNING SITE**

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# Requirement Model for Hatyai Technical College Social Network Learning Site

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By

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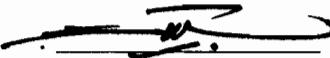
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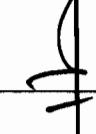
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## ABSTRAK

Rangkaian Sosial telah menjadi elemen penting dalam budaya popular, media massa dan kehidupan seharian pelbagai lapisan masyarakat. Rangkaian sosial ini tidak hanya menyediakan kemudahan untuk orang awam berinteraksi dan mendapatkan maklumat, tetapi juga ia mendorong orang awam untuk menyumbang dan berkongsi idea. Disamping itu, penggunaan rangkaian sosial juga sangat sesuai untuk proses pembelajaran online. Rangkaian Sosial juga memainkan peranan penting dalam aktiviti “*instruction media*” dan pertukaran idea serta pengatahan di antara para pelajar. Oleh hal yang demikian, kajian ini telah difokuskan kepada pembangunan laman rangkaian sosial pembelajaran khususnya dalam e-Forum, Chat Room, dan Web-blog sebagai sumber bantuan pembelajaran untuk Hatyai Technical Collage (HTC). Pembangunan prototaip dan juga pengumpulan maklumat biasanya di lakukan untuk memastikan keperluan pengguna tercapai “*Storyboard*” (papan cerita) telah direka untuk menunjukkan antaramuka (interface) website yang dibangunkan. Perisian Joomla 1.5 merupakan applikasi yang telah digunakan dalam merekabentuk antaramuka pengguna. Fasa pengujian penggunaan aplikasi telah dilaksanakan pada peringkat terakhir pembangunan prototaip ini. Fasa pengujian dilakukan dengan menggunakan teknik temuramah dikalangan para pelajar Hatyai Technical Collage (HTC). Keputusan dan hasil temuramah menunjukkan bahawa kajian ini telah berjaya mencapai objektif yang telah ditetapkan. Oleh hal yang demikian, keputusan kajian ini boleh disimpulkan bahawa laman web pembelajaran melalui rangkaian sosial memberi peluang kepada pengguna untuk menjadi akrab dengan aplikasi web dan menyediakan media tambahan untuk pembelajaran di luar kelas. Oleh itu, kajian ini diharapkan dapat dimanfaatkan sebagai aplikasi untuk pendidikan dan juga berguna bagi mereka yang berminat untuk melakukan kajian yang lebih mendalam dalam bidang kajian yang berkaitan.

## ABSTRACT

Social Network has become an important element of popular culture, mass media and daily lives of countless interest users. Social network not only provides a facility the public to interact and get information but also encourage people to contribute and share ideas. Furthermore, the purpose of social network usage is suitable for learning online. There are many classes that use social network as instructional media and exchange of knowledge among students. Hence, this study focused on development of social network learning site specifically in e-Forum, Chat Room and Weblog for Hatyai Technical College (HTC). Afterwards, the requirement has been done by collecting the data for develop the requirement model. The prototype has been built by create storyboard to represent the website screen interface and Unified Modeling Language (UML) have been illustrated to present the system functionality then was develop by Joomla 1.5 as template design. Finally, the evaluation has been handling by using user acceptance test through the interview with Hatyai Technical College students. The responds from the interviewees indicate that our objectives have been met in this study. We concluded that social network learning site provides an opportunity to the users to be familiar with the web applications and provides enhancement to the learning outside of classroom. Therefore, this research is expected to be useful as an application for education. And it is also useful for those interested in further applied to the other side of related work.

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## **List of Abbreviations**

CMS	Content Management System
HTC	Hatyai Technical College
ICT	Information and Communications Technology
ISD	Instructional Systems Development
OOP	Object-Oriented Programming
RDBMS	Relational Database Management System
SNS	Social Network Site
STD	Standard Deviation
UML	Unified Modeling Language

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This chapter provides an overview of the entire study. The first sub-topic describes the background of the study that lead to the implementation of the whole research. This is followed by problem statement, research questions, objective, scope of the study, significant of the study and research organization. The last sub-topic provides the way this research is summarized.

#### **1.1 Background of the Study**

Currently online social network have become an important of communication and information on cyber-world. Human social network is a relational connection between people and society such as kinship, friendship, common interest, financial exchange, knowledge or prestige; which allows them to establish the social network relationship (Rahman, Saddik, & Gueaieb, 2009). For this reason, social network are become more considerable in social life.

The social network is popular means of information sharing and communication among individuals into specific groups of similar interests. The core concept of social network focus on real time communication and location based. Social networks provides information sharing through typical media such as images, audio, video, text, animation, online blogs, word documents, power point slides and RSS feeds (Rahman, Saddik, & Gueaieb, 2009).

Social network occurred as a result of technological development and web 2.0 which was more important than ever, with exciting new applications and sites popping up with surprising regularity. The core concept of social network focus on real time communication and location based. Online social networks are a digital representation of the subsets of relations, which the registered persons and institutions entertain in the physical world, thus forming a network graph which spans all enclosed parties and their contacts.

Social networking websites function like an online community of internet users. like the LinkedIn corp., xing AG, facebook, google, MySpace Inc. and Twitter (Cutillo, Molva, & Strufe, 2009). For example of social networks tool, Twitter also set the trend for “real time” services, where users can broadcast to the world what they are doing, or what is on their minds within a 140 character limit (Wikipedia, 2010).

In addition, online social network tools have many applications that are comfortable for communication. For example, Chat Room is used by millions of people to connect in real-time across the world. According to Wikipedia (2010) Chat room users register for the chat room of their choice, choose a user name and password, and log into a particular room. To chat, users type a message into a text box. The message is almost immediately visible in the larger communal message area and other users respond. Other application, e-Forum is tools where everybody can give opinion about some topics of common interest are shared between peers. Weblog is similar to diary online. The information can be written by the site owner or reference from other sources to share knowledge and specific information.

In terms of education, social networks have an advantage in the transmission of information. Therefore, if applied in education such as learning management systems by integrating the management of the Multimedia Application. Teachers and students are also being used social networks as a communication tool (Rossi, 2010).

For example, Wikipedia (2010) found that teachers are creating chat-room forums and groups to extend classroom discussion to posting assignments, tests and quizzes, to assisting with homework outside of the classroom setting. Similarity, blog are increasingly becoming popular resources of timely and relevant information today. It possible to be enhance education tool which student learning and exchanges the attitude of the teachers and students as well.

In Thailand, people take advantage of social networks in innovative way and their open the opportunity to learn with technology and all forms of mass communication to students of all levels and people of all ages and gender.

Hatyai Technical College has established place on September 1, 1938 with the exclusive mission to handle the academic which can satisfy the demand of the community and local. The management of education has been developed that cause a new regularly performance. HTC consists of several departments such as Petroleum Department, Computer Department, Information Technology Department, Welding Metal Department, Building Constructor Department and etc.

Because of there are many department and several students, sometimes teaching in the classroom not enough for sharing the valuable knowledge. In this way, Hatyai Technical College has interested in social network learning site to be usable the communication way after finish class.

Therefore, this research aims to develop site which is tools of social network to apply in education sector. The system contains applications as e-Forum, Chat Room and Weblog. These tools liken a tool to facilitate reasonable which to be an important channel to reach students.

## **1.2 Problem Statement**

Nowadays, learning method in Thailand has been changed from lecturer-centered teaching to learning-centered teaching. Social network learning is another communication way to interact between teachers and learners. The learners can access information, interact, apply knowledge, and engage in learning activities using online course as the main vehicle.

The problem of Hatyai Technical College (HTC) has three main points of the traditional classroom. First of all, they are instructor-centered. Secondly, time and location constraints and another reason are more expensive to deliver. It maybe is not effective and efficient to learners and instructors. In some case, the learners may want to ask questions about the course materials and have to get the answers immediately. Therefore, it is proposed that the manual learning is replaced with more interactive learning materials like e-Forum, Chat Room and Weblog.

Therefore, this research aims to develop the effective social network learning site. The outlook of social network site use is quite high. The reasons of increasing users are certainly make student are comfortable to use social networks as a tool for learning. In addition, It has the more convenient contact between the learners and the instructors by e-Forum or Chat Room and the more simple ways for the instructors and learner to share information in their blog.

### **1.3 Research Questions**

The study aims to answer the following questions:

1. What are the user's requirements in designing requirements model of the proposed social network learning site?
2. How can we help the students and teachers to participate and share the knowledge through social network learning site?
3. Is the developed social network learning site usable?

### **1.4 Objective**

To achieve this objective, the following sub-objectives have been identified:

1. To develop a requirement model for social network learning site in Hatyai Technical College.
2. To develop social network learning site specifically in e-Forum, Chat Room and Weblog for Hatyai Technical College
3. To conduct user acceptance test on the developed social network learning site.

## **1.5 Scope of Study**

This research will focused on development of social network learning site specifically in e-Forum, Chat Room and Weblog. The scope of the research is limited on education groups by providing those students with the appropriate facilities for learning. Social network learning site prototype will be developed and usability testing will be conducted on the developed prototype.

The prototype will be evaluated by all students and lecturers in HatYai Technical College (HTC). And the researcher can contact with Mrs. Saowaluk Chumpia to identify requirement to solve the problem of this system. The fulfillment of this research will be developed based on Web Application using Joomla 1.5 as template design, PHP programming language as coding tool and MySQL as database management system.

## **1.6 Significant of the Study**

The research aims to provide development of social network learning site specifically in e-Forum, Chat Room and Weblog as a learn material which brings educational benefits to instructor and learner. The outcome of this research will give social network learning site as an online tool of communication ways to support students' learning in Hatyai Technical College (HTC).

Moreover, perspective of students will have positive affect on learning and the social networks course is going to improve learning outcomes which are of advantage to the learners directly. Likewise, this prototype will help academy to measure the effectiveness of student's learning. In the future, this research will be module which can be developed and applied to use with other area.

### **1.7 Research Organization**

This research organizes in six chapters which are introduction, literature review, research methodology, analysis, design and finding, prototype development and evaluation and conclusion. The following are content on each chapter.

Chapter 1: This chapter gives the background of the study, problem statement, research questions, objective, scope of the study, significant of the study and research organization.

Chapter 2: This chapter focused on the literature review related with electronic portfolio, weblog, social network system, social network learning, E-learning (Online learning).

Chapter 3: Chapter three describes the research methodology which is developed by Molenda (2003). It calls Addie model. It discusses the steps of methodology in this research.

Chapter 4: This chapter discusses the analysis finding of this study based on the result of implementation and show the system that had been developed in a web- based environment.

Chapter 5: Chapter five discusses the evaluation of the system and usability testing of the prototype.

Chapter 6: This is the last chapter that gives the conclusion to the study. The chapter discusses the conclusion base on analysis and finding. Furthermore, all suggestions for future works are also presented.

## **1.8 Summary**

This chapter explains for insight about the background of study, problem statement that need to be solved and the motivation factors that lead to the selection studied. The objective of this study is to develop social network learning site for Hatyai Technical College. It also explains scope of the study, significant of the study and research organization. The related literature review will be discussed in the next chapter.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter presents an emphasis on the literature review according to the area of research which it gives an insight on the previous work that have been conduct on the same area. According to the title of the research Requirement Model for Hatyai Technical College Social Network Learning Site, this chapter is organized into five sub-sections which can be applied in the context of this research.

The first section reviews on the overview and definition of the social network site which related with this topic research. Second section will describe social network learning to specific in education area. Third section presents the overview of e-Learning (Online learning) which is the most interesting trends for share information then gives examples of e-Learning. And the fourth sub-topic reviews on the related works which is the element of this work such as weblog, electronic portfolio and e-Forum are also described.

## **2.1 Social Network Site**

The web has now become a user-centered platform for managing and manipulating information (Pérez-Sanagustín, Santos, Moghnieh, Hernández-Leo & Blat, 2008). Online social networks (Mislove, Marcon, Gummadi, Druschel, & Bhattacharjee, 2007) have become an important medium of communication and information on the World Wide Web. Due to their accessible and timely nature, they are also an intuitive source for data involving the spread of information and ideas (Cha, Kwak, Rodriguez, Ahn, & Moon, 2007).

Social networks are an essential part of the web 2.0 movement. (Fox, Emden, Neubauer & Vornberger, 2009). The rise of the use of the information and communication technology in education has driven education institutes to improve the teaching and learning method, resulting in many kinds of new learning strategies such as e-learning, m-learning, and blended learning. (Wangpipatwong & Piamsakkamol, 2008).

As a result, social network sites are increasingly being used for social interaction over long periods of time (Lampe, Ellison, & Steinfield, 2008). Social networks analysis is mainly focused on studying the patterns of communication and exchange of information between people (El-Sayed, Mahdi, & Safar, 2009).

Actually, the common ways in which social network sites are used includes connecting with old friends and acquaintances and making new contacts (Lampe, Ellison, & Steinfield, 2006). Ricken et al., (2010) described that when a user sets up their social network sites friends list, they are engaged in name generation and mining. This combined with the communication data, can provide insight into their social networks.

The development of Web 2.0 sites, such as Facebook, Myspace, Wiki and other social networking sites (SNS), rapidly increase the number of virtual communities, in which online users may use to communicate, participate, and share content (Fu, Liu, & Wang, 2008). There are several social network tools which to support knowledge online community include e-mail, online forums, newsgroups, distribution lists, chat interfaces, live web cam video, and so on. Activities could include collective brainstorming, team projects, and role-playing scenarios. (Shehabat, & Mahdi, 2009).

Ricken, Schuler, Grandhi, and Jones, (2010), Sauer and Coward (1985) indicate the goal of social network is to satisfy personal needs and the function is to help individuals to extend interpersonal relationships. Social network emphasizes on social relationship and exchanging resources. In a social network structure, centrality is the indicator to measure the influence of an individual which represents the power of controlling resources of an individual (Chang, Lin, 2010).

## **2.2 Social Network in Education**

The social dimension of learning is one of the hardest to define or replicate. Many scientists argued that humans learn most naturally in social contexts. They states that social learning precedes internal learning. Also, many argue that social interaction encourages the more subtle and often more useful informal learning. (Shehabat, & Mahdi, 2009).

Social networks are like virtual classrooms now used for learning. Such classrooms are focused on supporting relationships between teachers and their students. The National School Boards Association reports that almost 60 percent of students who use social networking talk about education topics online and, surprisingly, more than 50 percent talk specifically about schoolwork (wiki, 2010).

Pongpech (2005) refer the advantage that learners reduce stress while taking an online course since they can try new things and make mistakes without exposing themselves. This benefit is particularly valuable when trying to learn management skills, such as leadership and decision-making. A practical learning tool shows the consequences of learner's actions and the reasons for their mistake. This type of learning experience eliminates the embarrassment of failure in front of classmates. As a result, self-pacing increases learner's satisfaction.

In any case, the preliminary study showed that many researchers agree that it is necessary for universities to prepare their teachers to have appropriate skills and expertise not only in the delivery of online courses and programs, but also their design and development. Failure to meet this will show the lack of teacher readiness for large-scale moves to online learning. Online teaching requires the teacher to possess a highly different skill set to that of conventional face-to-face teaching. (Shehabat, & Mahdi, 2009).

The great benefit of governmental support is that it can provide sponsorship and commitment. For example, some universities need a development model that provides a common capability backed by government, allowing universities and other educational bodies to exploit e-learning and focus on content and teaching. (Shehabat, & Mahdi, 2009). As a result, students and instructors can share information anytime and anywhere via E-mail, webboard, chat room, newsgroup and etc.

However, communication and social interaction in an online community have some disadvantage which can present a serious challenge to the existence of trust. Space and time constraints and the lack of face-to-face interaction may result in the lack of trust, identity and commitment in online communities. So, this effect of technology can make people unwilling or reluctant to share their knowledge and collaborate with others (Wan & Zhao, 2007).

### **2.3 e-Learning (Online Learning)**

E-learning or online learning is a generic term which encompasses the learning channels and systems such as remote delivery of multimedia content, email, video conferencing, online interactive classes and learning management systems (Zhang & Bao, 2010). In the other words, electronic learning or, more commonly e-learning is an all –encompassing term to describe learning supported by the use of information and communications technology (ICT)

E-learning is one of the most interesting trends in computer science and psychology. As it is meant as any form of learning that utilizes a network for delivery, interaction or facilitation, anytime and anywhere it allows people and organizations to keep up with rapid changes that define the Web and the global business (Blochl, Rumetshofer, & Wob, 2003).

E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching, in which case the term Blended learning is commonly used (Kumaravel, & Manoharan, 2010). Huandong et al., (2008) mention that E-learning is an electronic teaching system, which can be interactive computer network courses based on web, also a multimedia teaching software or system based on digital technology. Moreover, E-learning is also the transfer of skills & knowledge using technology to deliver learning and training programs.

E-learning is now being adopted and integrated into main point of education. Zhang & Bao (2010) refer that education views E-learning as a resource for reorganizing schooling and as a tool for whole school development. E-learning is an entirely new model of education that is online learning or internetizing learning.

This learning method will change the relationship between teachers and students in traditional teaching, thereby fundamentally changes the nature of teaching and educational structure. Its widespread popularity and deep development will have an incalculable significance for the improvement of education, the quality of teaching and training, efficiency and effectiveness, education implementation, the globalization of teaching automation, all the life of study (Chen, 2008)

Nowadays, e-learning systems are very popular. E-learning must become a key element of school. Instructor via the Web can be combined with real time mentoring, improved learner services and up to date engaging content, to create a highly effective multidimensional learning environment. These sophisticated training solutions provide even greater cost savings, higher quality learning experiences, the adoption of e-learning reduce amount of administration and reuse collaboratively prepared course material and help to deliver courses. Student can study anywhere as long as there is access to a computer with internet connection (Liang, 2009).

## 2.4 Related works

In this research, there are 3 topic that related works such as Electronic Portfolio, Weblog (Blog) and e-Forum. The detail shown in this below:

### 2.4.1 Electronics Portfolio

An electronic portfolio, also known as an e-portfolio or digital portfolio is a creative means of organizing, summarizing, and sharing artifacts, information, and ideas about teaching and/or learning, along with personal and professional growth (Johnson & Lamb, 2007). Currently, portfolio is important and has been very popular tool. Because of people recognizes the benefits and important of the portfolio more. Wikipedia, (2010) mention that Electronic portfolio is a collection of electronic evidence assembled and managed by a user, usually on the Web. Such electronic evidence may include inputted text, electronic files, images, multimedia, blog entries, and hyperlinks.

Barrett, (2005) mention that portfolios help to set students apart from the crowd by showcasing their skills and abilities through physical evidence of work and achievements (artifacts). They allow others to gain a deeper and clearer picture of where they have been, where they are now, and where they are going in their chosen career. Portfolios are necessary for lifelong and life-wide learning.

E-portfolio is website created to store and disseminates information of staff or people in organization. E-portfolio may is an aggregation which learners use information tools and show anything about their learning objects, activities, outcomes, achievements, progresses and reflections on learning process and results. E-portfolio is better than the paper portfolio. It can present form as multimedia picture, sound and animation.

Barrett, (2005) defines as E-portfolios are online interactive information management tools that provide the student with greater flexibility in terms of the type of content displayed. E-portfolios present concise, annotated collections of work that record learning, growth and change that may enable students to plan and proceed towards their future goals and enlighten future employers.

Furthermore, Electronic portfolios also serve to enhance computer and technology skills. There are many ways that can be organized electronic portfolio. The teacher and student would gain experience by creating structure, selecting, organizing, editing and evaluating the portfolios. Students would feel a sense of accomplishment and empowerment by displaying, sharing and presenting their electronic portfolios to teachers, fellow classmates and parents (Abrenica, 2010). In other word, electronic portfolio is purposed to be comprehensive their basic portfolio and representative of experience.

#### 2.4.2 Weblog (Blog)

Weblog, sometimes written as web log or Weblog, is a Web site that consists of a series of entries arranged in reverse chronological order, often updated on a frequent basis with new information about particular topics. The information can be written by the site owner, gleaned from other Web sites or other sources, or contributed by users (TechTarget, 2000).

Nunnally & Bernstein (1974) mention that the Weblog (blog) is a form of online diary or regularly updated journal which provides a personal viewpoint. Some authors refer to weblog as a communication tool that aims to promote the sharing of messages among participants through an area named blog. Each context's participant owns a blog, where he/she can post or exclude messages. Each participant may access other participants' blogs, comment on posted messages by the owner of the blog (Beder, Silva, A.C., Otsuka, Silva, C.G., & Rocha, 2007).

Weblog becomes an important channel among people in the digital social network. Blogs are usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order (Wikipedia, 2010).

Moreover, there are many thousands of popular weblogs in existence (Will, Li and Clark, 2006) such as blogger, blogspot, bloggang, myspace and etc. Weblog provides a fast and easy way to leave messages, or links for more information, that all friends could access. Users can easily start their own free journal, share thoughts with their friends and meet new friends. Of course, weblogs are global in the sense that they are not confined to any geographical area (Will, Li and Clark, 2006).

Weblogs are not only communication tools, but also have been successfully applied to different fields, for example, education and healthcare (Wassell & Crouch, 2008). In some of the attractions of blogging are noted, of which the following are particularly pertinent in education: Blog encourages writing. Because of it is source that has new knowledge, accurate and clear. Moreover blog is easier to write with a specific audience in mind. It cause the viewer can get the specific information and various fields more quickly.

Second, Blog is easy to read because the site is constantly changing, entries are short and the newest snippets are easy to find. And other advantage, it satisfies one's need to give personal commentary and opinion. So, it is more versatile than a discussion board (Berman & Katoma, 2007).

### **2.4.3 e-Forum**

An electronic forum (e-Forum), or message board, or internet forum is an online discussion website where people can hold conversations in the form of posted messages. There are 2-3 the access level of member user, guest and administrator depended on the forum set-up. A posted message must need to be approved by administrator before it becomes visible.

Chen, Cheng, &Huang (2008) define as web forum is a popular platform where thousands of people present their views on various topics. Among these topics, some are valuable while others are not. As the scale of web forum is becoming larger and larger, it is rather a hard job for people and systems to recognize high-quality topics from these tons of information in a timely manner.

In this new era, electronic forum or web forum has become an important resource on the website due to forum has fully information contributed by millions of internet users routine. The web forum is a tool where opinions about some topics of common interest are shared between peers (Zhang, Zeng, Fan, Dang, Larson &Chen, 2009).

A web forum is a virtual community that builds on top of the internet technologies for their members to share information on the subjects of public interest without face-to-face contact with other (Yang, Ng, Wang, Wei, & Chen, 2007). The system has designed to support the space where ideas are shared among the whole community. The knowledge website forum thus enables people to be creative together, but the user do not all have to be in one place at the same time. It means, the user can work together to invent new ideas, think, share and communicate with others in an extended discussion over time in any place.

## **2.5 Summary**

This chapter covered the definitions of the principle concepts according to the area of the project. The topic is including the social network system, social network learning to specific in education area, e-Learning (Online learning) and the related works which is the element of this work such as weblog, electronic portfolio and e-Forum. The research methodology that has been used in this study will be discussed in the next chapter.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter explains the methodology that used in this research to achieve the research's objectives. Basically, this chapter gives an overview and describes the methodology of this research which was carried out in several steps as illustrated in Figure 3.1. The customized methodology of the design contained these phases are: Instructional Analysis, Design, Development, Implementation and Evaluation (ADDIE).

ADDIE methodology can adapt in developing the social network learning site for Hatyai Technical College. For this methodology is a series of step – by – step processes that can lead the accomplishment of this research. The processes will show all the methods and techniques and describe how works has to be carried out in order to accomplish the objective or goal of the system development.

### 3.1 Customized Methodology

The “ADDIE Model” approach built by Molenda, M. (2003) would be selected and adopted in this research due to its suitable for developing the proposed. ADDIE is an acronym referring to the major processes that comprise the generic instructional systems development (ISD) process: Instructional Analysis, Design, Development, Implementation, and Evaluation (Molenda, 2003). In the next subtopics will be elaborated on the essence of each of the steps accordingly.

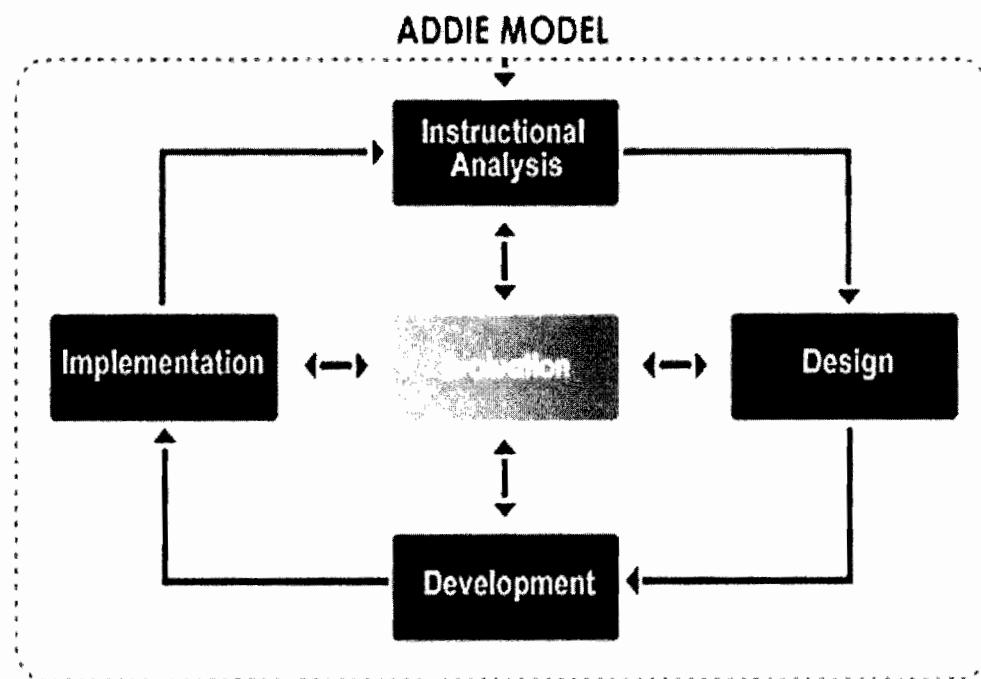


Figure 3.1: ADDIE (Molenda, M., 2003) Customized Methodology

### **3.1.1 Instructional Analysis**

The first phase of this methodology is to collect the all data and all requirements by using questionnaires. It is important to know what criteria and functions that has to be applied in the social network learning site considering the requirement from target users prior to developing it. The requirements have been gathered based on the questionnaires with experience lecturers and students.

In this case, the researcher collects the questionnaires with 17 Petroleum Department students and lecturers, 12 Computer Department students and 21 Information Technology Department students and general staff. After all final requirements for social network learning site are determined, several alternatives of designs were taken that best match the requirements with consideration of few factors. These alternatives were later compared with each other and the best recommendations were chosen hence being the result of this phase.

### **3.1.2 Design**

In this design phase, storyboards are created to represent the website screen interface which into a more understanding format for the purpose of implementation well as the attractive users' interest way to the system. The design phase involves using the output from the instructional analysis phase to plan a structure for developing the instruction.

The prototype of social network learning site is build via the Web-based technology. Unified Modeling Language (UML) used in this research to present the system functionality among the learner or user. In addition, sequence diagram, collaboration diagram and class diagram have been illustrated during this phase by using Rational Rose 2000 for diagram presenting.

According to the title of the project Requirement Model for Hatyai Technical College Social Network Learning Site, this requirement model was built by prototype. The prototypes help users get an idea of what the system will look like, and make it easier for users to make design decisions without waiting for the system to be built. More explanations on design will be covered in Chapter Four.

### **3.1.3 Development**

The techniques for development will of course vary depending on the artifact to be constructed. The development phase is the process of authoring and producing the materials need to meet the objectives. After designing the structure and navigation of the prototype, this research proceeds with the development of the prototype system as designed. This phase involved with the development social network learning site. In this study the tools that are used to develop the prototype are Joomla 1.5 as template design, PHP programming language as coding tool and MySQL as database management system. The detail of tools shown in this below:

## **I. Joomla 1.5**

Joomla is a free and open source content management system (CMS) for publishing content on the World Wide Web and intranets. Joomla is written in PHP, uses object-oriented programming (OOP) techniques and software design patterns, stores data in a MySQL database, and includes features such as page caching, RSS feeds, printable versions of pages, news flashes, blogs, polls, search, and support for language internationalization (Wikipedia, 2010).

## **II. PHP**

PHP (PHP Language) is a computer language for type-O Paint software Mart (Open Source Computer Language) for developing dynamic Web pages. It is purposely designed to perform a series of functions in web pages and operate on the server side in normal process. This language has established as one of the most widely Web scripting language in use (Wen et al., 2005).

## **III. MySQL**

MySQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. MySQL is the most popular Open Source. SQL database management system is developed, distributed, and supported by Oracle Corporation (Wikipedia, 2010).

### 3.1.4 Implementation

The Implementation phase refers to the actual delivery of the social network learning site. The purpose of this phase is the effectiveness and efficiency of website. The prototyping process contains three main steps which were adapted from Vaishnavi & Kuechler (2008), as shown in (Fig. 3.2). This phase must promote the students' understanding of material, support the students' mastery of objectives, and ensure the students' transfer of knowledge from their mind to share ideas by using e-Forum or Chat Room or Weblog.

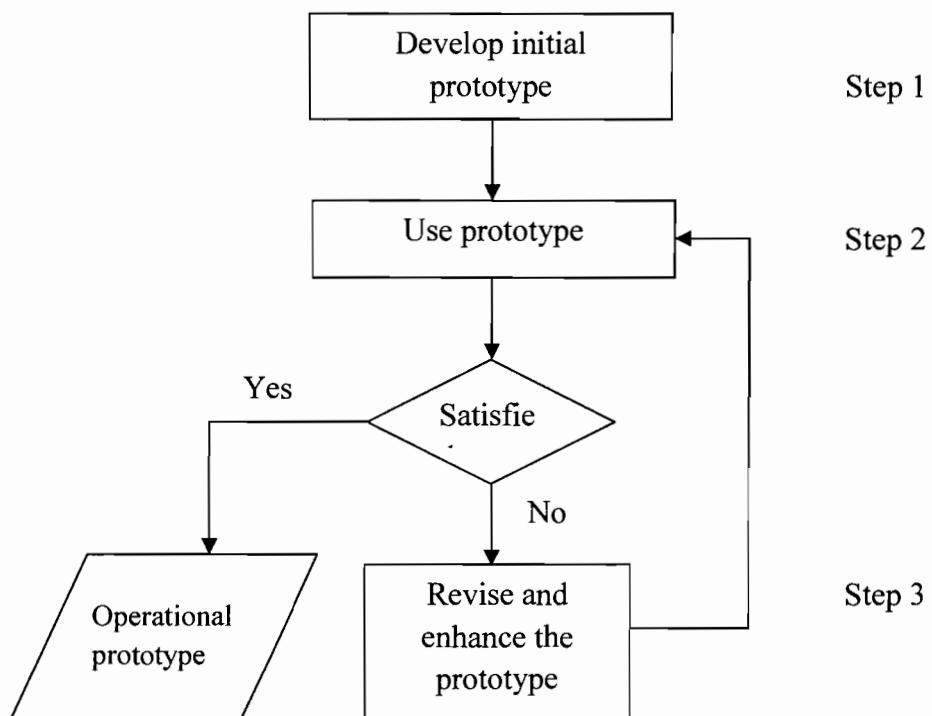


Figure 3.2: The Prototype Processes adapted from (Vaishnavi & Kuechler, 2008)

### Step 1: Develop Initial Prototype

The prototype based on the requirements that had been identified in the instructional analysis step and social network learning site was built.

### Step2: Use the Prototype

In this step, the researcher will give the sample of 10 users were encouraged to use the social network learning site in order to identify errors and measure the efficiency of the functionalities provided.

### Step3: Evaluate as Operational Prototype

Step of evaluation was performed online. All comments and feedback obtained from the sample of users in step 2 were used to revise the prototype.

#### **3.1.5 Evaluation**

The evaluation will perform to determine the level of functionality of the system prototype. This summative evaluation is what is symbolized by the final Evaluation phase. In each of these phases, the results of the evaluative activity could lead the developers to revisit earlier steps. Seem like every phase can check the effectiveness through evaluation phase, hence the two-headed arrows (Molenda, 2003).

In the same way, after developing the prototype of the Social Network Learning Site, the proposed prototype would be evaluated by the students who want to use this site to guide and support the learning through online communication by expert-walk via test to which are depend on questionnaires and interview.

After the researcher develops the system, It takes few days are survey the user acceptance test on the developed social network learning site. The researcher will give the sample of 10 users to interview. The response, comments or feedback from a group of students or users would be the main evaluation of social network learning site either it is under their expectation. Afterwards, the researcher will be collecting all questionnaires from respondents and using SPSS 16.0 to analyze the data.

### **3.2 Summary**

This chapter introduces the research methodology study. For the development of social network learning site, this research has applied the ADDIE methodology which specify on learning developments. The five phases of ADDIE model to carry out for Hatyai Technical College students are explained. The summary for each phase consider as Instructional Analysis, Design, Development, Implementation and Evaluation. And the analysis, design and finding of social network learning site for Hatyai Technical College will be presented in the next chapter.

## **CHAPTER FOUR**

### **ANALYSIS AND DESIGN**

#### **4.0 Introduction**

This chapter presents the design of the proposed prototype. In the first (Section 4.1) shown the detail of requirement model which related with the title of the research Requirement Model for Hatyai Technical College Social Network Learning Site. Second section which has number 4.2, the researcher collect all data requirements follow the questionnaire (shown more in Appendix A). Afterwards, creates storyboard to prepare the content and layout of prototype described in Section 4.3. For section 4.4, this research indicated the system software requirements and list of requirements present in section 4.5.

For the diagram, Rational Rose Enterprise Edition 2000 is be used as a tool to draw all of diagram such as use case diagram, use case specification, sequence diagram, collaboration diagram and class diagram shown in Section 4.6-4.10. Then, a section is dedicated to the design of the interface and content of HTC social network learning site shown in Section 4.11.

#### 4.1 System Requirement Model

System requirements are the foundation upon which systems are constructed. The following are the requirements model for Hatyai Technical College social network learning site. The requirements for this model are organized according to the research questions and objectives.

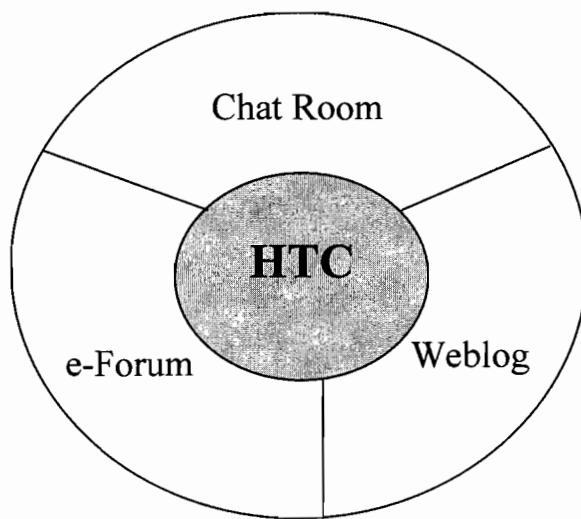


Figure 4.1: HTC Requirement Model

The aim of developing HTC social network learning site must be produce requirement that meets the needs of the users who will be using website. It is important that the data requirement analysis as one of the first steps in developing a HTC system. Thus, the researcher create HTC requirement model to show the scope of HTC social network learning site focused on e-Forum, Chat Room and Weblog as shown in Figure 4.1

## **4.2 Requirements Gathering**

This part will enlarge more on requirements analysis. There are two techniques of gathering information that have been conducted such as interview and questionnaires. (Dennis, Wixon, & Tegarden, 2005). The requirements of the social network site are obtained from collect the questionnaires with experience lecturers and students of Hatyai Technical College. The questionnaires questions have helped to shape the analysis and design of the system. The system features were constructed based on the findings of the questionnaires which the appreciate information. The prototype should be able to do according to the user requirement.

Among the questions asked in the questionnaires are 3 sections as the follow:

### **Section 1: General information of respondents.**

1. Gender
2. Age
3. Type of user
4. Department

### **Section 2: Information on the use of the Internet respondents.**

Explanation: Please indicate how you strongly usage or weakness usage with each statement by circling a number

1 = Never Usage, 2 = Weakness Usage, 3 = Usage, 4 = Strongly Usage

1. Using the SNS to sharing information and connecting with others
2. Using the SNS to search the homework's answer/research
3. Using the SNS to send/receive e-mail
4. Using the SNS to share idea via chat room
5. Using the SNS to entertainment

### **Section 3: Opinions about the format of user interface for HTC social network learning site.**

1. Layout pages.
2. Size of the screen on the display site.
3. Which size of font is suitable for web pages?
4. Which tone of color is suitable for web pages?
5. How many colors used on the site?
6. If the site bring e-Forum (Web board) to use as an instruction media. Will benefit or not? How?
7. If the site bring Chat Room to use as an instruction media. Will benefit or not? How?
8. If the site bring Weblog (Blog) to use as an instruction media. Will benefit or not? How?
9. Which services do you want to get in the website and it will suitable for an instruction media? (Should be added / updated? how?)

### **4.3 Storyboard**

Storyboard is a written framework illustrates the complete story of the prototype. In the details will show the layout of screen, text, images, animations music and speech. There are particularly useful for demonstrates the navigation scheme and multi-media presentations. Storyboards are most flexible when drawn by hand-drawn, but more realism and some animation and interaction can be created by using a package such as PowerPoint, Adobe Photoshop or other program. This part is seriously design to prepare before the researcher will create the real prototype.

Figures below are storyboard of prototype. The researcher illustrated by Adobe Photoshop CS2. The first figure (Figure 4.2) showed the front page of this system. In the front page has many button links to other pages. For example, students can create own profile as portfolio as shown Figure 4.3 in this figure 4.4 shown e-Forum page, Figure 4.5 shown the chat room page, the user can write and manage blog as shown Figure 4.6. There is some information as learn English with music posted by administrator (Figure 4.7 and 4.8).

Moreover, if users need to ask question or have some problem about system. They can contact administrator via contact us page as shown Figure 4.9. Finally, this website also have site map which can help users to know all about website (Figure 4.10).

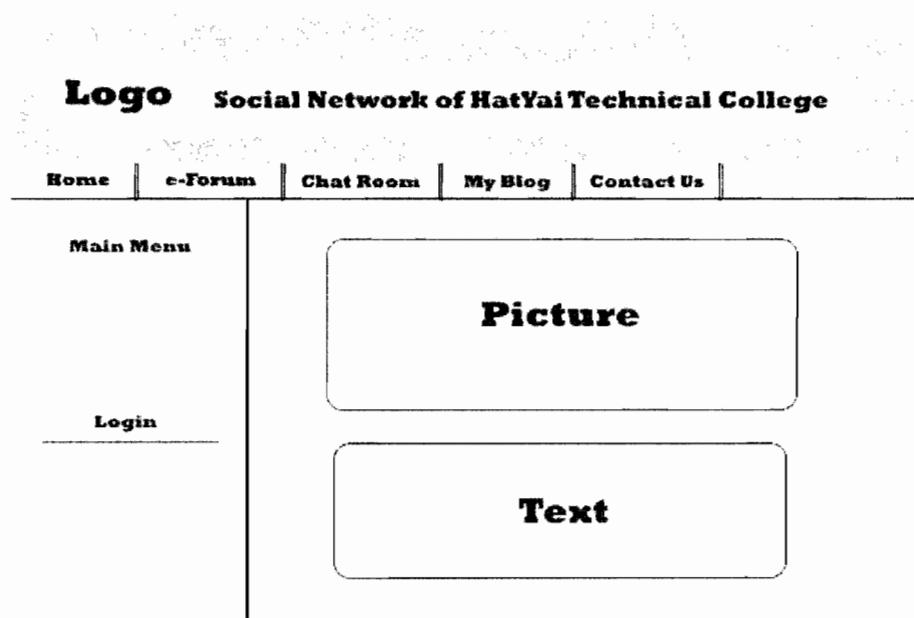


Figure 4.2: Front Page of HTC Website

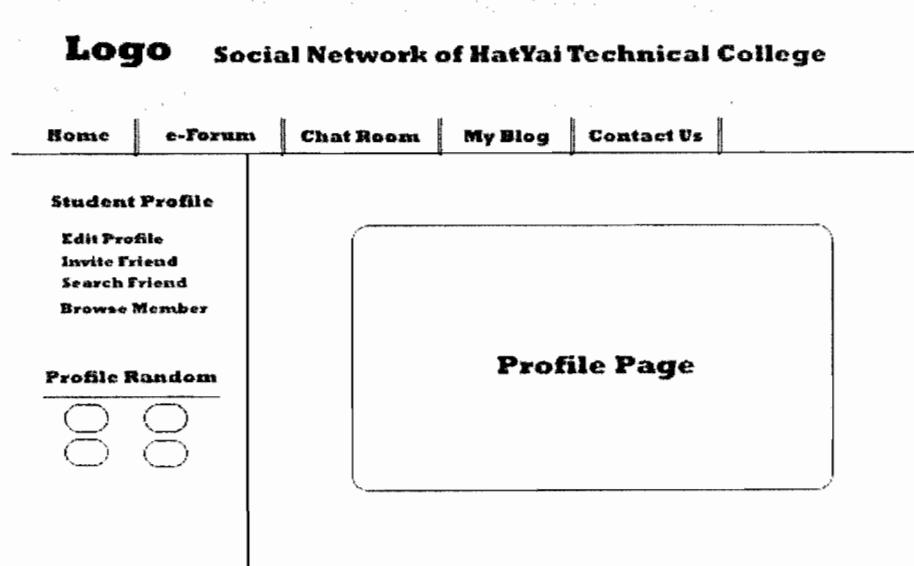


Figure 4.3: Student Profile Page of HTC Website

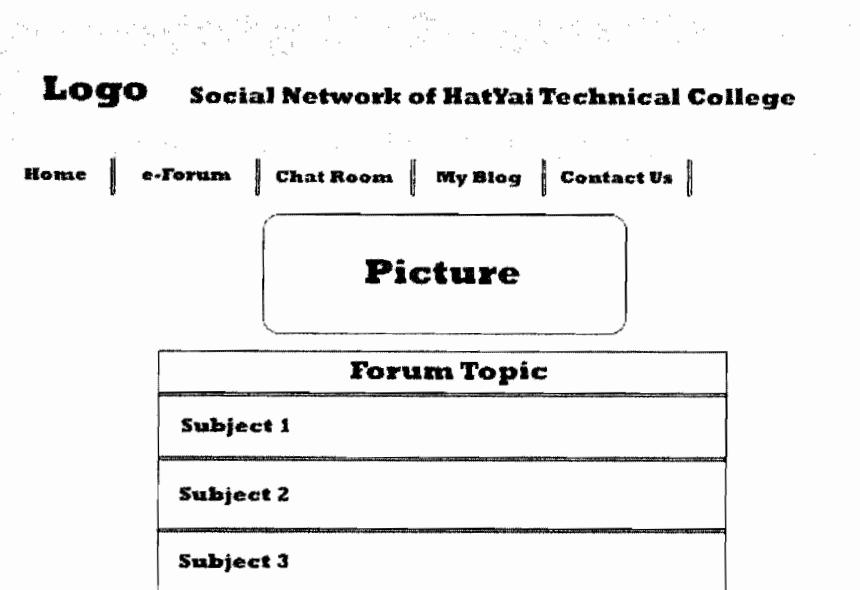


Figure 4.4: e-Forum page of HTC website

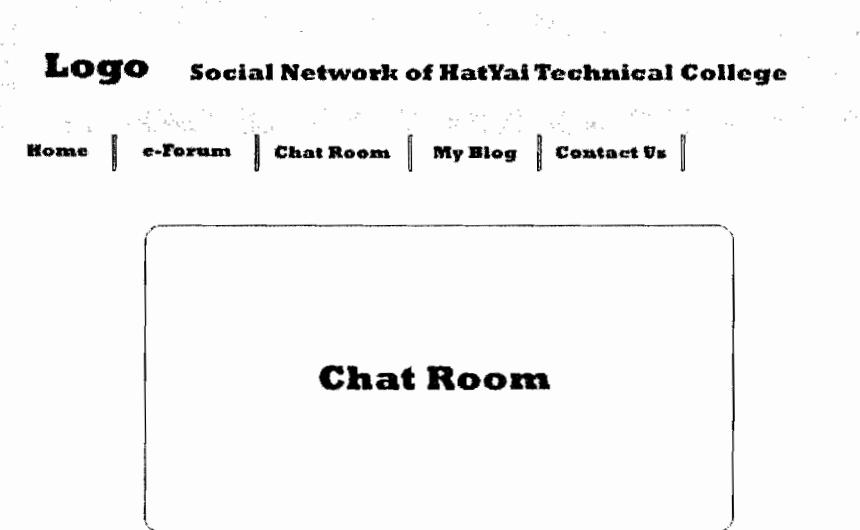


Figure 4.5: Chat Room page of HTC website

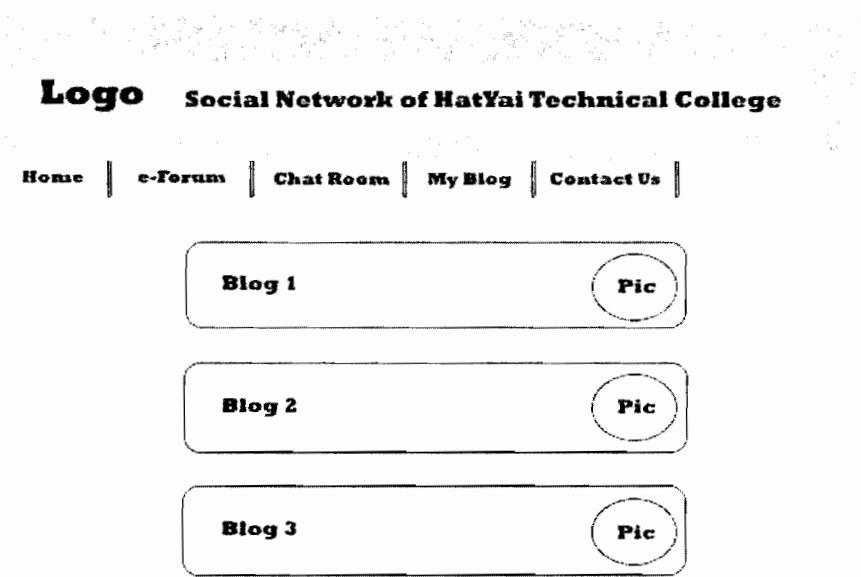


Figure 4.6: My Blog page of HTC website

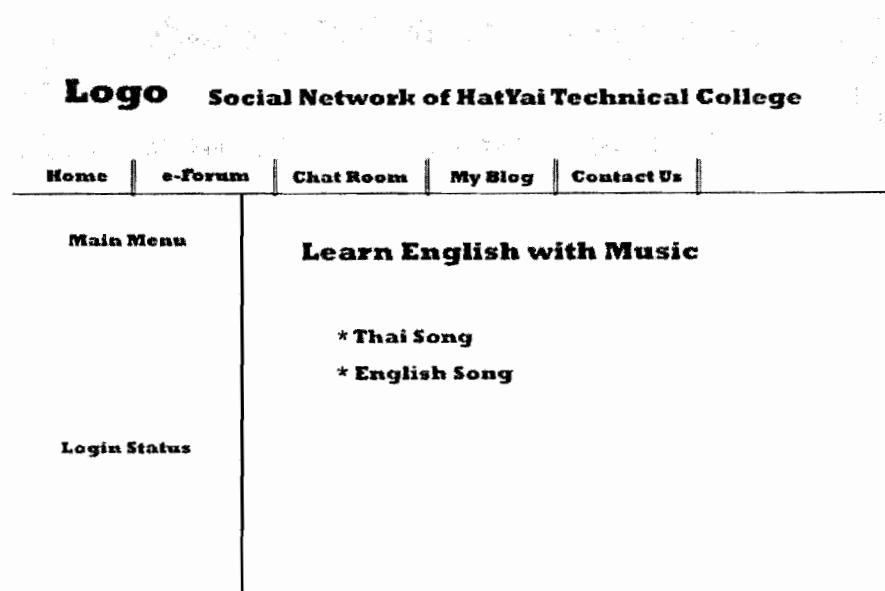


Figure 4.7: Learn English with Music main page of HTC website

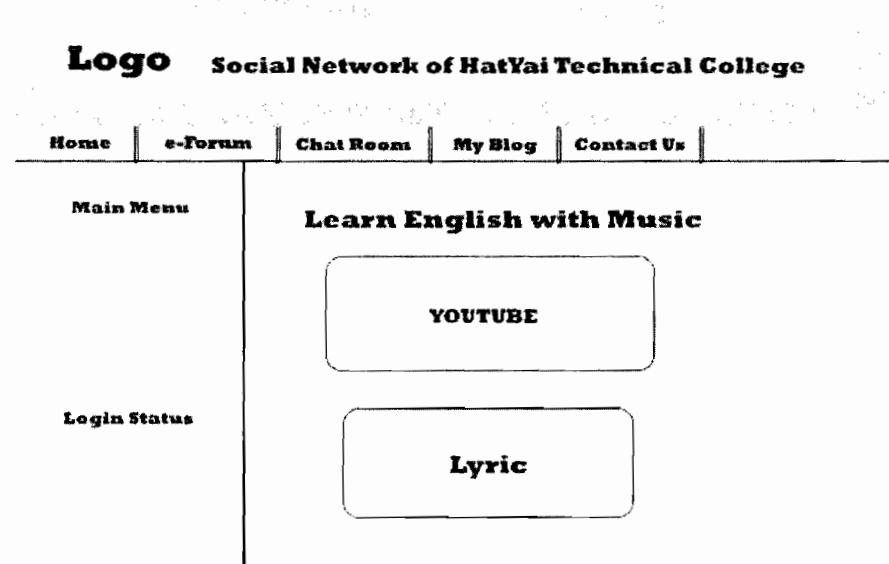


Figure 4.8: Learn English with Music sub page of HTC website

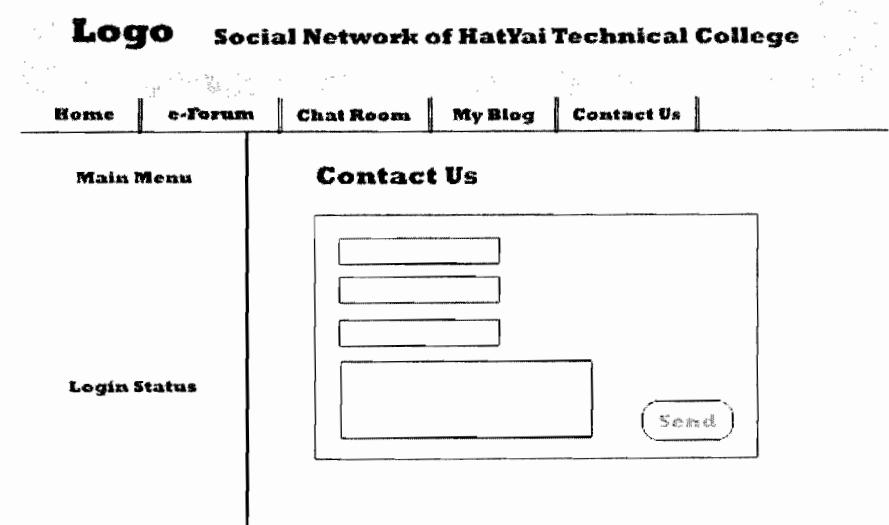


Figure 4.9: Contact us page of HTC website

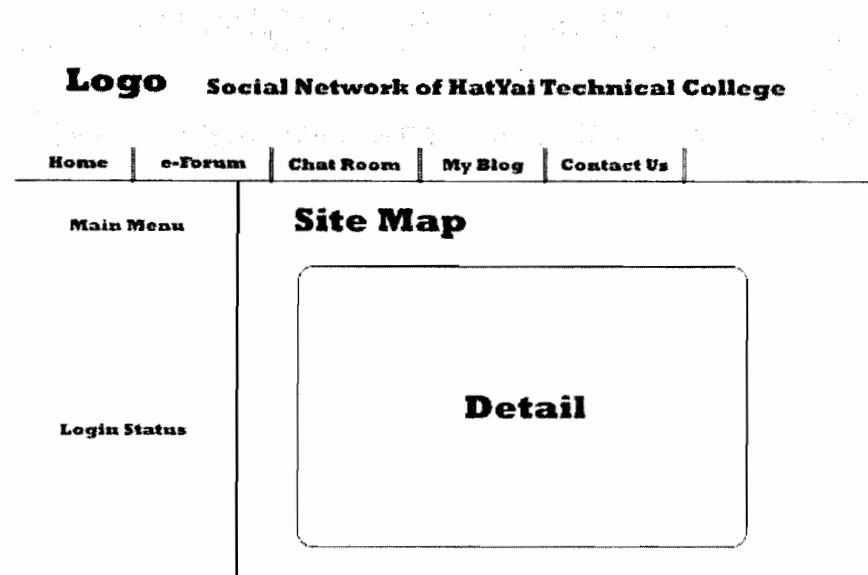


Figure 4.10: Site Map page of HTC website

#### 4.4 System Software Requirements

The proposed of social network learning HTC site will used the following many software as shown in table 4.1.

Table 4.1: List of Software

Software	Utilization
Joomla 1.5	To publishing content on the World
PHP	To build the source code
MySQL	To store database
Rational Rose Enterprise Edition	To draw all of UML diagrams
Adobe Photoshop CS2	To create and edit storyboard and

## 4.5 List of Requirements

Listed below are the functional requirements and non-functional requirement of the system, the abbreviation used as follows:

- M – mandatory requirements (something the system must do)
- D – Desirable requirements (something the system preferably should do)
- O – Optional requirements (something the system may do)

### 4.5.1 Functional Requirements

The functional requirements describe the core functionality of the application. This section includes the data and functional process requirements. Marlene (2011) mention that the functional requirements are a key area of project management and very important system requirements in the system design process.

In this system have 11 functional requirements consist of Login, Manage e-Forum, Manage Chat Room, Manage Blog, Logout, Create Own Portfolio, Participated e-Forum Post, Participated Chat Room, Participated Blog, Register and View Basic information as shown in Table 4.2.

Table 4.2: Functional Requirements

No.	Requirement ID	Requirement Description	Priority
	<b>SNHTC_01</b>	<b>Login</b>	
1.	SNHTC_01_01	The users and administrator insert name and password to login system	M
2	SNHTC_01_02	The users and administrator can cancel to login the system	O
3	SNHTC_01_02	The users and administrator will get the message “re-enter name & password” if name and password insert it is wrong.	M
	<b>SNHTC_02</b>	<b>Manage e-Forum</b>	
4	SNHTC_02_01	The administrator can create forum	M
5	SNHTC_02_02	The administrator can reply forum topic	M
6	SNHTC_02_03	The administrator can move forum topic	M
7	SNHTC_02_04	The administrator can delete forum post	M
8	SNHTC_02_05	The administrator can delete forum topic	M
	<b>SNHTC_03</b>	<b>Manage Chat Room</b>	
9	SNHTC_03_01	The administrator can create chat room	M
10	SNHTC_03_02	The administrator can delete user	M

No.	Requirement ID	Requirement Description	Priority
	<b>SNHTC_04</b>	<b>Manage Blog</b>	
11	SNHTC_04_01	The administrator can create blog	M
12	SNHTC_04_02	The administrator can delete blog	M
13	SNHTC_04_03	The administrator can delete blog comment	M
	<b>SNHTC_05</b>	<b>Logout</b>	
14	SNHTC_05_01	The users and administrator can logout from the system (View Logout form)	M
15	SNHTC_05_02	The users and administrator not logout from the system.	O
	<b>SNHTC_06</b>	<b>Create Own Portfolio</b>	
16	SNHTC_06_01	The users can create own portfolio	M
17	SNHTC_06_02	The users can edit own portfolio	O
18	SNHTC_06_03	The users can view friend profile	O
	<b>SNHTC_07</b>	<b>Participated e-Forum Post</b>	
19	SNHTC_07_01	The users able to view forum post	M
20	SNHTC_07_02	The users able to write forum post	M
21	SNHTC_07_03	The users able to create forum topic	M

No.	Requirement ID	Requirement Description	Priority
22	SNHTC_07_04	The users able to delete their forum post	M
23	SNHTC_07_05	The users able to delete their forum topic	M
	<b>SNHTC_08</b>	<b>Participated Chat Room</b>	
24	SNHTC_08_01	The users able to join into chat room	M
25	SNHTC_08_02	The users able to set status of user	M
	<b>SNHTC_09</b>	<b>Participated Blog</b>	
26	SNHTC_09_01	The users able to create and modify own blog	M
27	SNHTC_09_02	The users able to view friend blog	M
28	SNHTC_09_03	The users able to comment friend blog	M
	<b>SNHTC_10</b>	<b>Register</b>	
29	SNHTC_10_01	Guest can create account	M
30	SNHTC_10_02	Guest can create password	M
31	SNHTC_10_03	Guest can input general information	M
	<b>SNHTC_11</b>	<b>View Basic Information</b>	
32	SNHTC_11_01	Guest can view e-Forum post	M
33	SNHTC_11_02	Guest can view blog	M

#### 4.5.2 Non-functional Requirements

The Non-Functional Requirements which are descriptive of the parameters of system performance, quality attributes, reliability and security, cost, constraints in design/implementation, etc (Marlene, 2011). In this system have 3 non-functional requirements consist of Usability Issues, Reliability Issues and Security Issues as shown in Table 4.3.

Table 4.3: Non-functional Requirements

No.	Requirement ID	Requirement Description	Priority
	<b>SNHTC_12</b>	<b>Usability Issues</b>	
34	SNHTC_12_01	The system should be easy to use	M
35	SNHTC_12_02	The system must carry the benefit and usefulness for Hatyai Technical College	M
36	SNHTC_12_03	The system must carry the benefit and usefulness	M
	<b>SNHTC_13</b>	<b>Reliability Issues</b>	
37	SNHTC_13_01	The system must be made accessible anytime.	M
38	SNHTC_13_02	The system must be support the instruction media for teacher and learner.	M
	<b>SNHTC_14</b>	<b>Security Issues</b>	
39	SNHTC_14_01	The system shall include a user authorization procedure where users must identify themselves using login name and password. Only users who are authorized in this way may access the system data.	M

## 4.6 Use Case Diagram

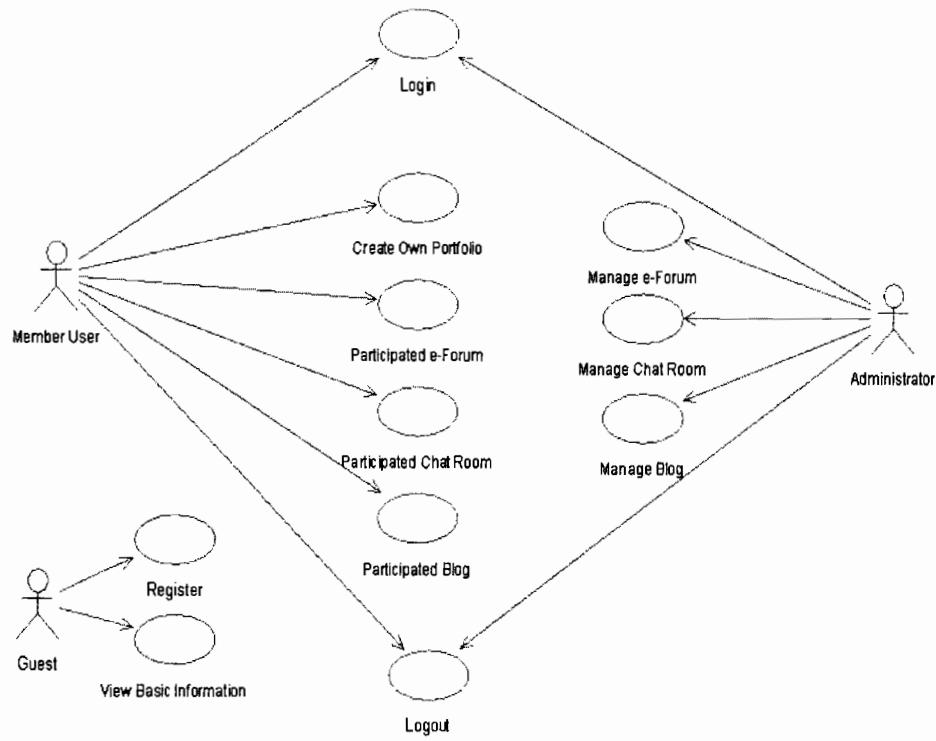


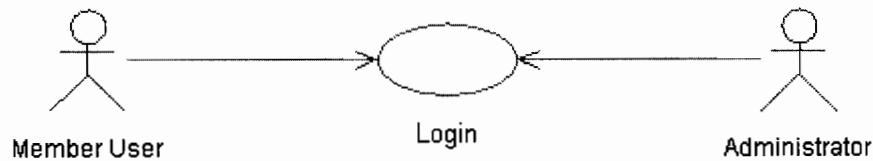
Figure 4.11: Use case diagram for HTC social network learning site

Figure 4.10 shows the use case diagram of the main prototype. There are three characters in the diagram for HTC Social Network Learning Site that is administrator, user and guest. Every character has different features; the administrator operations in the prototype focus on the design and manage the system. For example, manage user system, manage e-Forum, manage chat room, manage blog and manage portfolio. Users participated e-Forum, chat room and blog. And the last character, guest can view e-Forum post, view blog and register into the system.

## 4.7 User Case Specifications

The use case specification is a diagram that shows a set of use cases, actors and their relationships. Use cases represent system functionality, the requirements of the system from the user's perspective. The purpose of creating use case specification is to make the developer easy to understand more clearly. This section presents the image of each case, brief description, pre- condition, characteristics of activation, flow of events, post-condition, exception for each use case and rules.

### 4.7.1 Use Case Name: Login (SNHTC\_01)



- **BRIEF DESCRIPTION**

This use case is login by member user and administrator. It is will enable the users to login the system.

- **PRE-CONDITION**

The systems only for the user have the password.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on users demand).

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_01\_01]**

1. Browse Website.
2. The system will display login form.
3. The users enter name and password, and press login button.
4. The system authenticated the user name and password. [E1 – username and password not match ]
5. The system display main page.
6. Use case end.

**Alternative Flow**

Not Applicable.

**Exceptional Flow [SNHTC\_01\_02]**

[E1 – username and password not match]

1. The system recognized that the name and password is not match.
2. The system will display the message “re-enter name & password”.

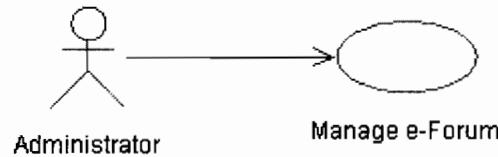
- **POST CONDITIONS**

The users manage to login the system.

- **RULES**

Valid for user have a password.

#### **4.7.2 Use Case Name: Manage e-Forum (SNHTC\_02)**



- **BRIEF DESCRIPTION**

This use case is managed e-Forum by administrator. It is will enable the administrator to create forum, reply forum topic, move forum topic, delete forum post and delete forum topic.

- **PRE-CONDITION**

The system is only for the administrator who must login before administrator can do any action.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on administrator's demand)

- **FLOW OF EVENTS**

#### **Basic Flow [SNHTC\_02\_01]**

1. The administrator can create forum.
2. The administrator can reply forum topic when the administrator press “Reply Topic” button. [A1- press Delete Post button]
3. The administrator can move forum topic when the administrator want to move that topic to another topic groups. The administrator press “Move Topic” button. [A2- press Delete Topic button]
4. The system will be display the page that administrator choose.
5. Use case end.

#### **Alternative Flow**

[A1- press Delete Post button] [SNHTC\_02\_04]

1. The administrator has pressed “Delete Post” button.
2. The system will display the alert message “Are you sure you want to delete this post?
3. Press “OK” to confirm action.

[A2- press Delete Topic button] [SNHTC\_02\_05]

4. The administrator has pressed “Delete Topic” button.
5. The system will display the alert message “Are you sure you want to delete this topic? This action cannot be undone”.
6. Press “OK” to confirm action.

### **Exceptional Flow**

Not Applicable.

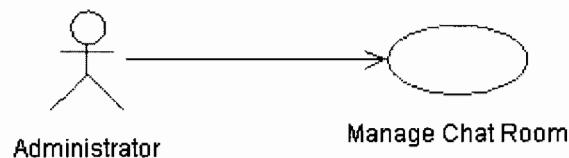
- **POST CONDITIONS**

Administrator manages e-Forum for the member user.

- **RULES**

Only administrator can create forum.

#### **4.7.3 Use Case Name: Manage Chat Room (SNHTC\_03)**



- **BRIEF DESCRIPTION**

This use case is managed chat room by administrator. It is will enable the administrator to create chat room and delete user.

- **PRE-CONDITION**

The system is only for the administrator who must login before administrator can do any action.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on administrator's demand).

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_03\_01]**

1. The administrator can create chat room
2. The administrator can edit user by press “Edit User” button. [A1- press Delete User button]
3. Use case end.

**Alternative Flow**

[A1- press Delete User button] [SNHTC\_03\_02]

1. The administrator has pressed “Delete User” button.
2. The system will display the alert message “Delete User”.
3. Press “OK” to confirm action.

## **Exceptional Flow**

Not Applicable.

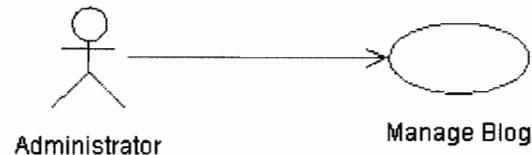
- **POST CONDITIONS**

Administrator manages chat room for the member user.

- **RULES**

Only administrator can create chat room.

### **4.7.4 Use Case Name: Manage Blog (SNHTC\_04)**



- **BRIEF DESCRIPTION**

This use case is managed blog by administrator. It is will enable the administrator to create blog, delete blog and delete blog comment.

- **PRE-CONDITION**

The system is only for the administrator who must login before administrator can do any action.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on administrator's demand).

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_04\_01]**

1. The administrator can create blog
2. The administrator can edit blog by press “Edit” button. [A1- press Delete button]
3. The administrator can view comment [A2- press Delete Comment button]
4. Use case end.

**Alternative Flow**

[A1- press Delete Blog button] [SNHTC\_04\_02]

1. The administrator has pressed “Delete” button.
2. The system will delete blog

[A2- press Delete Post button] [SNHTC\_04\_03]

3. The administrator has pressed “Delete” button.
4. The system will display the alert message “Are you sure”.
5. Press “OK” to confirm action.

### **Exceptional Flow**

Not Applicable.

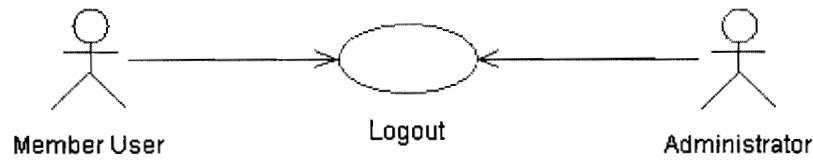
#### **• POST CONDITIONS**

Administrator manages blog for the member user.

#### **• RULES**

Only administrator can create blog.

#### **4.7.5 Use Case Name: Logout (SNHTC\_05)**



- **BRIEF DESCRIPTION**

This use case is logout by member user and administrator. It is will enable the users to logout the system

- **PRE-CONDITION**

The system is only for the member user and administrator who must login.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on users demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_05\_01]**

1. The users press logout button
2. The system will display the message “Are you sure to Logout”
3. The users press “Yes” button.[A1 – press “no” button]
4. The system will terminate the system and display home page
5. Use case end.

### **Alternative Flow**

[A1 – press “no” button] [SNHTC\_05\_02]

1. The users press “No’ button
2. The system will display to main page
3. Use case end

### **Exceptional Flow**

Not Applicable.

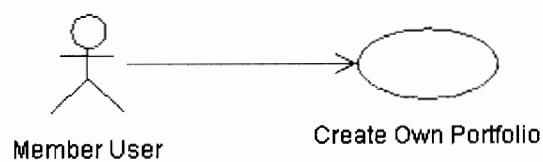
#### **• POST CONDITIONS**

The member user and administrator manage to logout from the system.

#### **• RULES**

Not Applicable.

### **4.7.6 Use Case Name: Create Own Portfolio (SNHTC\_06)**



- **BRIEF DESCRIPTION**

This use case is creating new portfolio and edit profile by member user. It is will enable the member user view friend's profile.

- **PRE-CONDITION**

The system is only for the member user who must login system.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_06\_01]**

1. The member user can create own portfolio.
2. The member user able to edit own profile. [A1- press Invite Friend button]
3. The member user can view friend profile by press “Search Friend” button.  
[A2- press Browse Member button]
4. Use case end.

### **Alternative Flow**

[A1- press Invite Friend button] [SNHTC\_06\_02]

1. The member user has pressed “Invite Friend” button.
2. The system will display the invite friend page
3. The member user can put the friend’s e-mail
4. Press “Be Followers” to confirm action.

[A2- press Browse Member button] [SNHTC\_06\_03]

5. The member user has pressed “Browse Member” button.
6. The system will display browse member page.

### **Exceptional Flow**

Not Applicable.

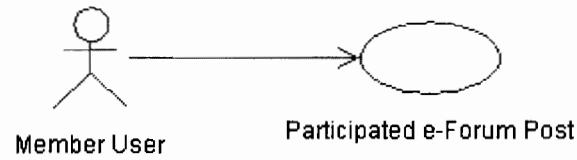
- **POST CONDITIONS**

The member user can update portfolio.

- **RULES**

Not applicable.

#### 4.7.7 Use Case Name: Participated e-Forum Post (SNHTC\_07)



- **BRIEF DESCRIPTION**

This use case describes the interaction between member user and e-Forum post system. The member user has participated e-Forum post that can view forum post, write forum post, create forum topic, delete forum post and delete forum topic.

- **PRE-CONDITION**

The system is only for the member user who must login system.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_07\_01]**

1. The member user can view forum post
2. The member user can write forum post by press “Reply Topic” [A1- press Delete Post button]
3. The member user can create forum topic by press “New Topic” [A2- press Delete Topic button]
4. Use case end.

**Alternative Flow**

[A1- press Delete Post button] [SNHTC\_07\_04]

1. The member user has pressed “Delete Post” button.
2. The system will display the alert message “Are you sure want to delete this post?”
3. Press “OK” to confirm action.

[A2- press Delete Topic button] [SNHTC\_07\_05]

1. The member user has pressed “Delete Topic” button.
2. The system will display the alert message “Are you sure you want to delete this topic? This action cannot be undone”.
3. Press “OK” to confirm action.

## Exceptional Flow

Not Applicable.

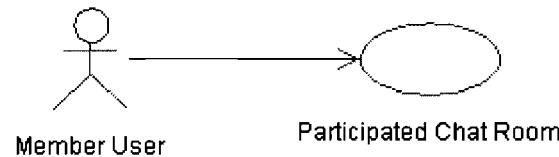
- **POST CONDITIONS**

The member user can have participated.

- **RULES**

Not applicable.

### 4.7.8 Use Case Name: Participated Chat Room (SNHTC\_08)



- **BRIEF DESCRIPTION**

This use case describes the interaction between member user and chat room system. The member user has participated to join into chat room, and set status of user.

- **PRE-CONDITION**

The system is only for the member user who must login system.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_08\_01]**

1. The member user able to join into chat room.
2. The member user can set status of user by press “ Hide online users box”
3. Use case end.

**Alternative Flow**

Not Applicable.

**Exceptional Flow**

Not Applicable.

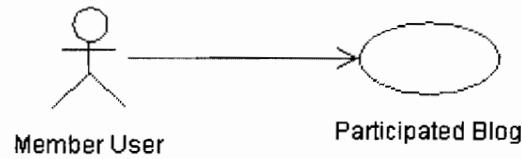
- **POST CONDITIONS**

The member user can have participated.

- **RULES**

Not applicable.

#### 4.7.9 Use Case Name: Participated Blog (SNHTC\_09)



- **BRIEF DESCRIPTION**

This use case describes the interaction between member user and blog system. It is will enable the member user to create and modify their blog, view friend blog and comment friend blog.

- **PRE-CONDITION**

The system is only for the member user who must login system.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_09\_01]**

1. The member user able to create and modify own blog
2. The member user can view friend blog. They can search the topic title or user name.
3. The member user able to comment on friend blog by press “Reply this Post” [A1- press Edit Post button], [A2- press Delete Post button]
4. Then press “Save Comment” button
5. Use case end.

#### **Alternative Flow**

[A1- press Edit Post button] [SNHTC\_09\_03]

6. The member user has pressed “Edit” button.
7. The member user able to rewrite comment.
8. Press “Save Comment” to confirm action.

[A2- press Delete Post button] [SNHTC\_09\_03]

9. The member user has pressed “Delete” button.
10. The system will display the alert message “Are you sure”.
11. Press “OK” to confirm action.

#### **Exceptional Flow**

Not Applicable.

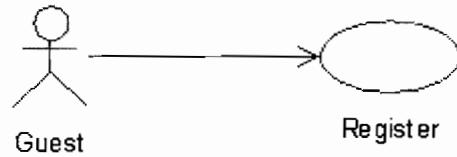
- **POST CONDITIONS**

The member user can have participated.

- **RULES**

Not applicable.

#### **4.7.10 Use Case Name: Register (SNHTC\_10)**



- **BRIEF DESCRIPTION**

This use case describes the interaction between guest and register system.

Guest able to create new account, create password and input general information

- **PRE-CONDITION**

New account user who has e-mail.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_10\_01]**

1. Guest can create new account by press “Create an account” [E1 – duplicate username]
2. Guest can create password
3. Guest able to put general information such as name, username, e-mail
4. Press “Register”
5. Use case end.

**Alternative Flow**

Not Applicable.

**Exceptional Flow**

[E1 – duplicated username] [SNHTC\_10\_02]

1. The system will check on database and display the alert message “Duplicated Username”
2. The system will display the message “Please create new username”.

- **POST CONDITIONS**

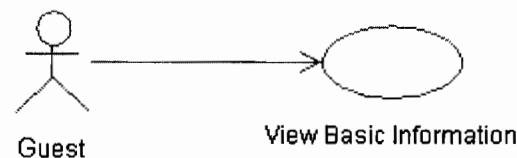
Not Applicable.

- **RULES**

Fields marked with an asterisk (\*) are required.

New account cannot duplicate the name in account.

#### **4.7.11 Use Case Name: View Basic Information (SNHTC\_11)**



- **BRIEF DESCRIPTION**

This use case describes the interaction between guest and view basic information system. Guest can view e-Forum post and blog.

- **PRE-CONDITION**

New account user who has e-mail.

- **CHARACTERISTICS OF ACTIVATION**

Event Driven (on member user's demand)

- **FLOW OF EVENTS**

**Basic Flow [SNHTC\_11\_01]**

1. Guest can view e-Forum post
2. Guest can view blog

**Alternative Flow**

Not Applicable.

**Exceptional Flow**

Not Applicable.

- **POST CONDITIONS**

Not Applicable.

- **RULES**

Not applicable.

## 4.8 Sequence diagram

A sequence diagram is a kind of interaction diagram in Unified Modeling Language (UML). This is a model of problem domain activity that shows how processes operate the interaction between object. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams (Wikipedia, 2011).

In this section, sequence diagram present the process operation all of use case. The list of sequence diagram shows the name of sequence diagram and actors in each diagram in Table 4.4 below.

Table 4.4: List of Sequence Diagram

No.	Sequence Diagram	Actor(s)
1.	Login	Member User,
2.	Manage e-Forum	Administrator
3.	Manage Chat Room	Administrator
4.	Manage Blog	Administrator
5.	Logout	Member User,
6.	Create Own Profile	Member User
7.	Participated e-Forum Post	Member User
8.	Participated Chat Room	Member User
9.	Participated Blog	Member User
10.	Register	Guest
11.	View Basic Information	Guest

#### 4.8.1 Sequence Diagram: Login

Figure 4.12 shown login system in sequence diagram. The member user and administrator must login on their system through username and password that available in database. Then, there is exceptional flow to present the process that username and password not match shown in the figure 4.13.

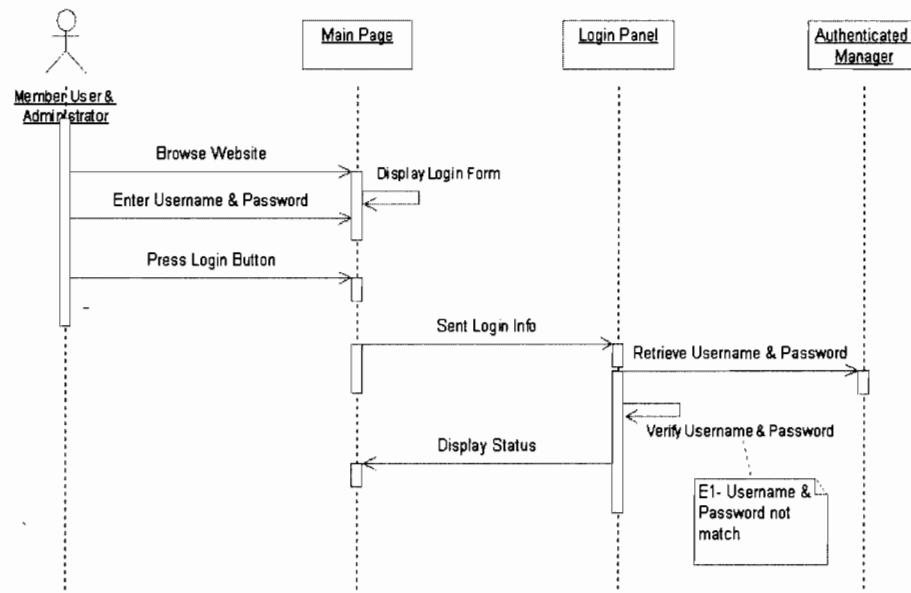


Figure 4.12: Sequence Diagram Login: Basic Flow [SNHTC\_01\_01]

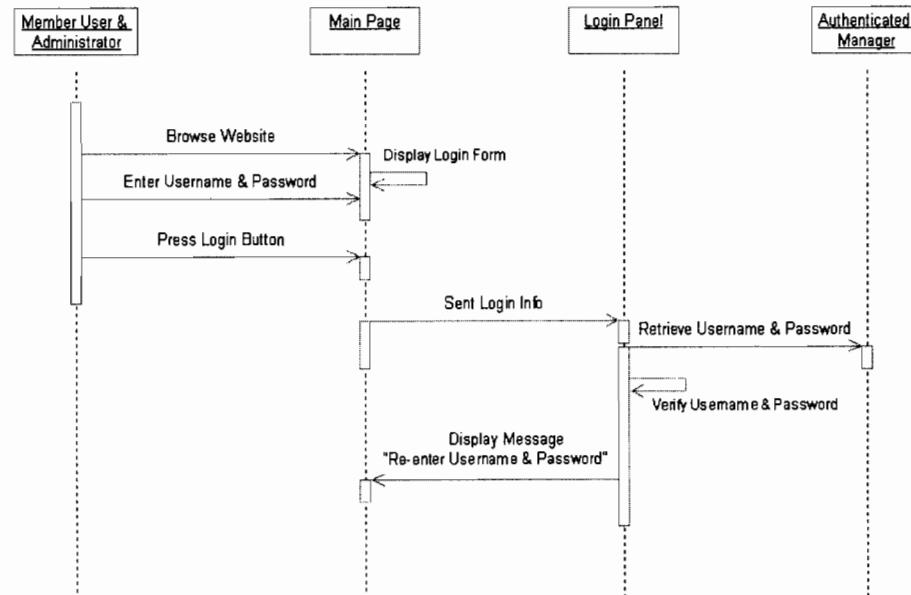


Figure 4.13: Sequence Diagram Login: Exceptional Flow (E1- username & password not match) [SNHTC\_01\_02]

#### 4.8.2 Sequence Diagram: Manage e-Forum

This sequence diagram manages e-Forum by administrator. The administrator enables to create forum, reply forum topic, and move forum topic in this system (Figure 4.14). Moreover, there are two alternative flows to delete forum post and delete forum topic shown in The Figure 4.15 and 4.16.

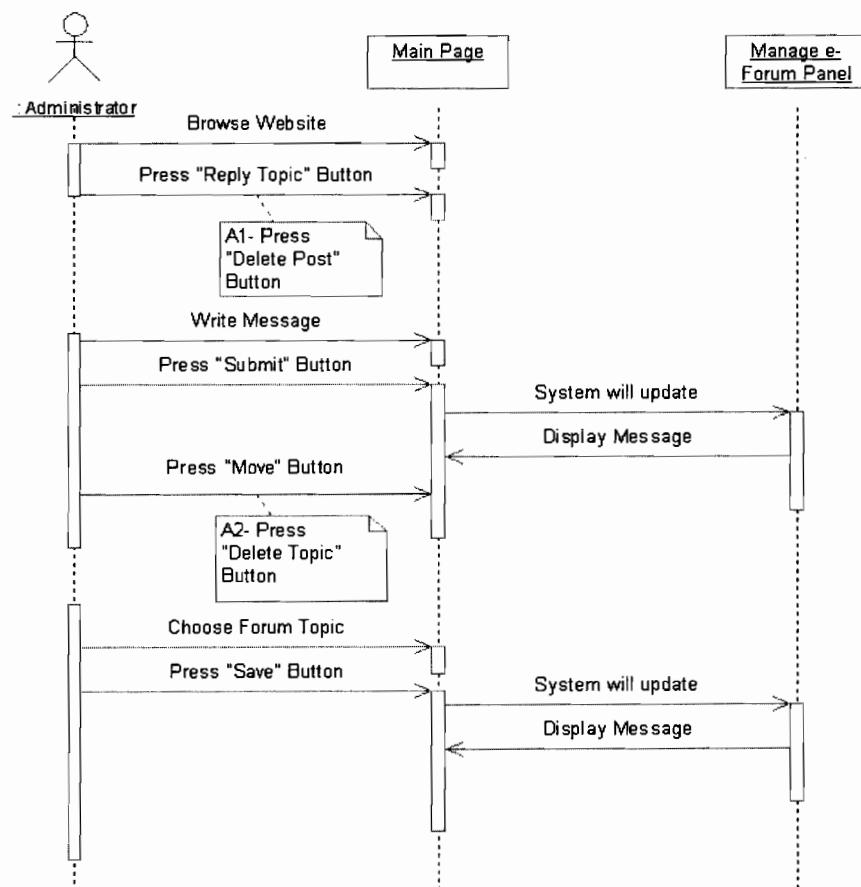


Figure 4.14: Sequence Diagram Manage e-Forum: Basic Flow [SNHTC\_02\_01]

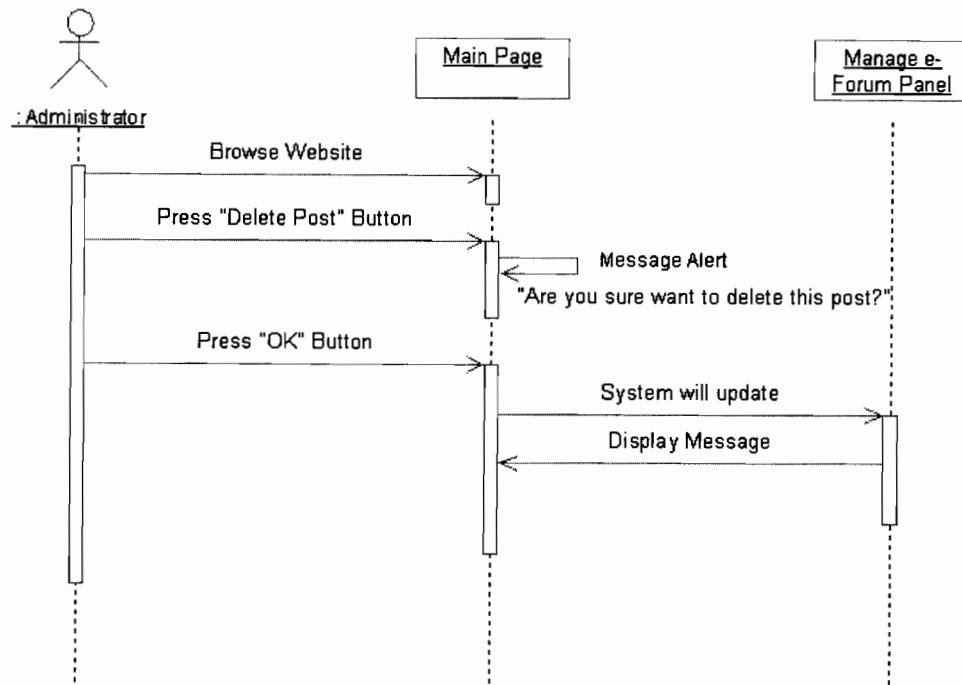


Figure 4.15: Sequence Diagram Manage e-Forum: Alternative Flow (A1- press delete post button) [SNHTC\_02\_04]

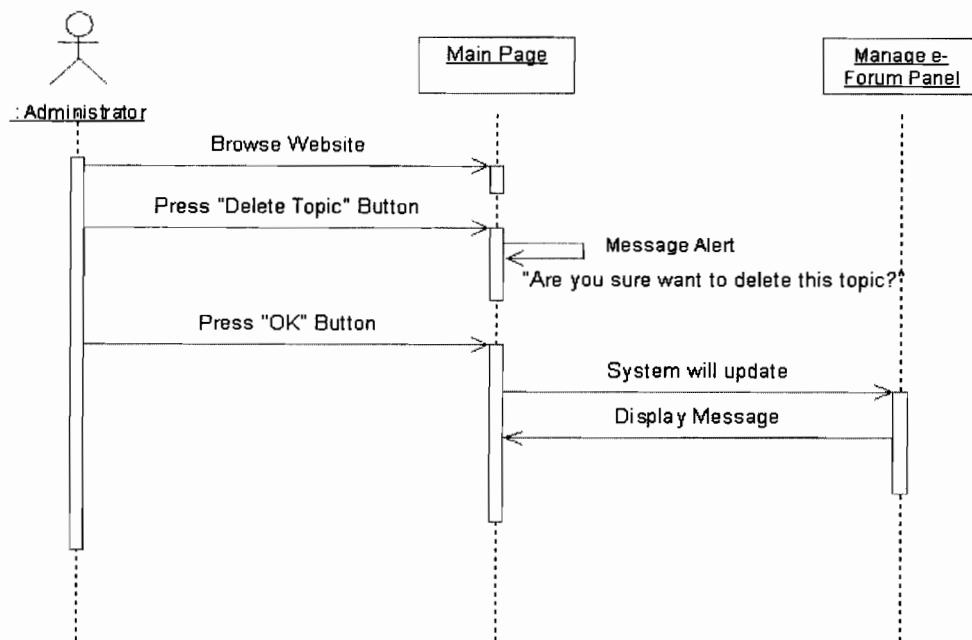


Figure 4.16: Sequence Diagram Manage e-Forum: Alternative Flow (A2- press delete topic button) [SNHTC\_02\_05]

### 4.8.3 Sequence Diagram: Manage Chat Room

In the section manage chat room, the administrator able to create chat room and delete user as shown Figure 4.17 and has one alternative flow shown in Figure 4.18.

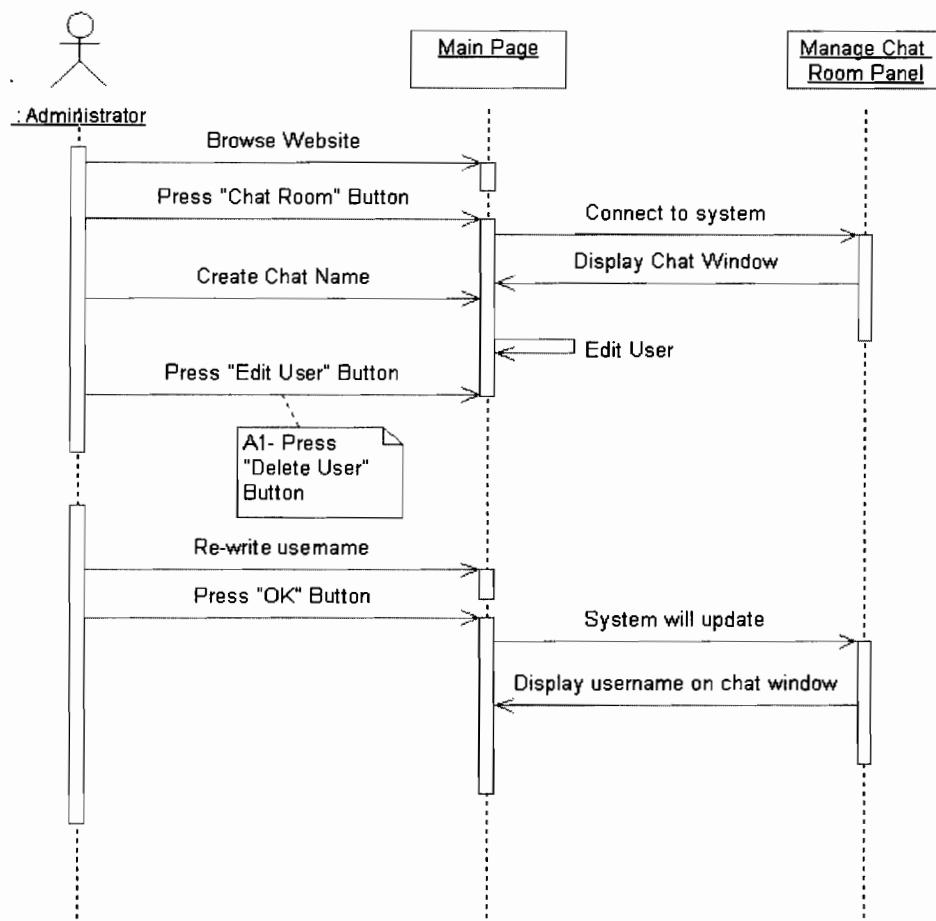


Figure 4.17: Sequence Diagram Manage Chat Room: Basic Flow [SNHTC\_03\_01]

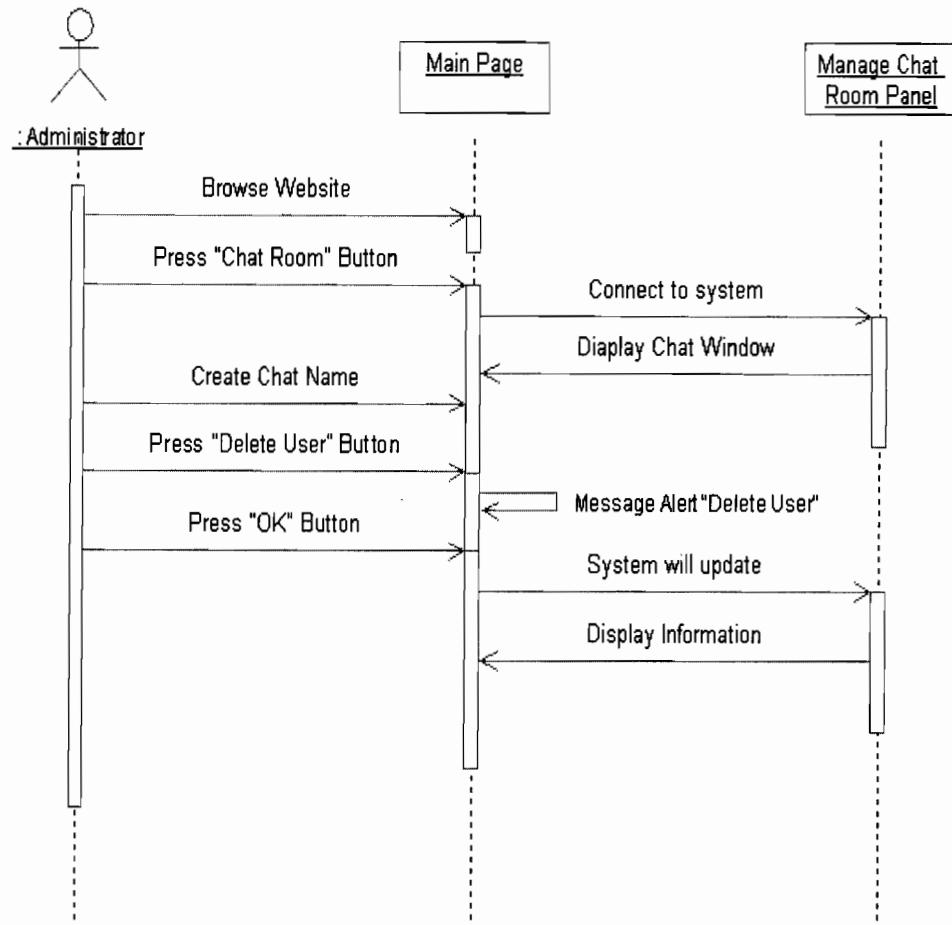


Figure 4.18: Sequence Diagram Manage Chat Room: Alternative Flow (A1- press delete user button) [SNHTC\_03\_02]

#### 4.8.4 Sequence Diagram: Manage Blog

This sequence diagram manages blog by administrator. The administrator enables to create blog as shown Figure 4.19. They have two alternative flows to delete blog and delete blog comment as shown Figure 4.20 and 4.21.

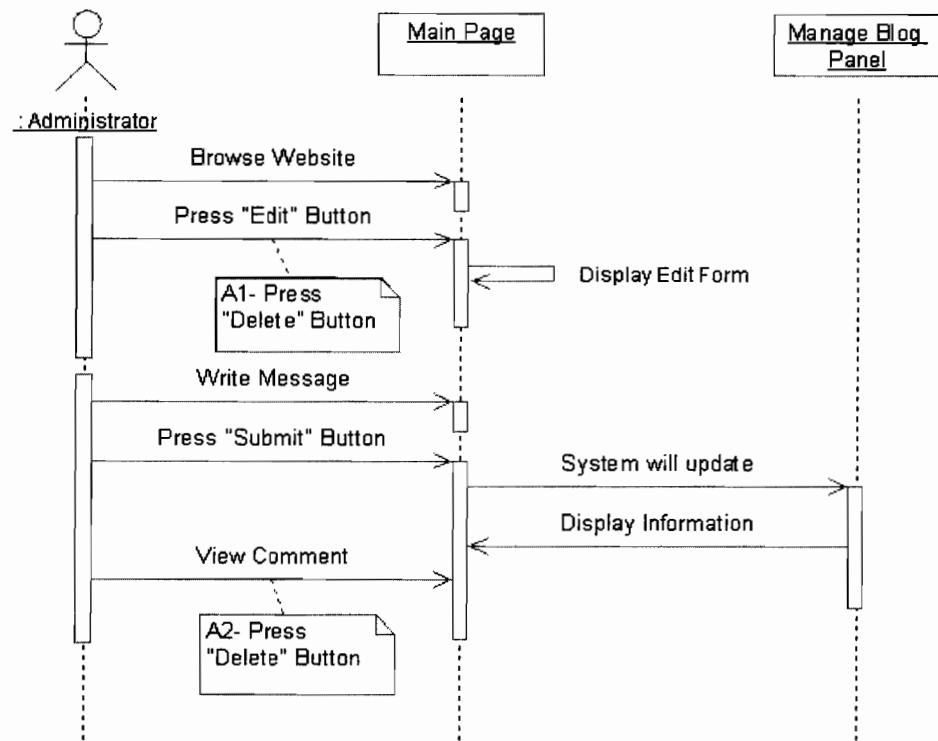


Figure 4.19: Sequence Diagram Manage Blog: Basic Flow [SNHTC\_04\_01]

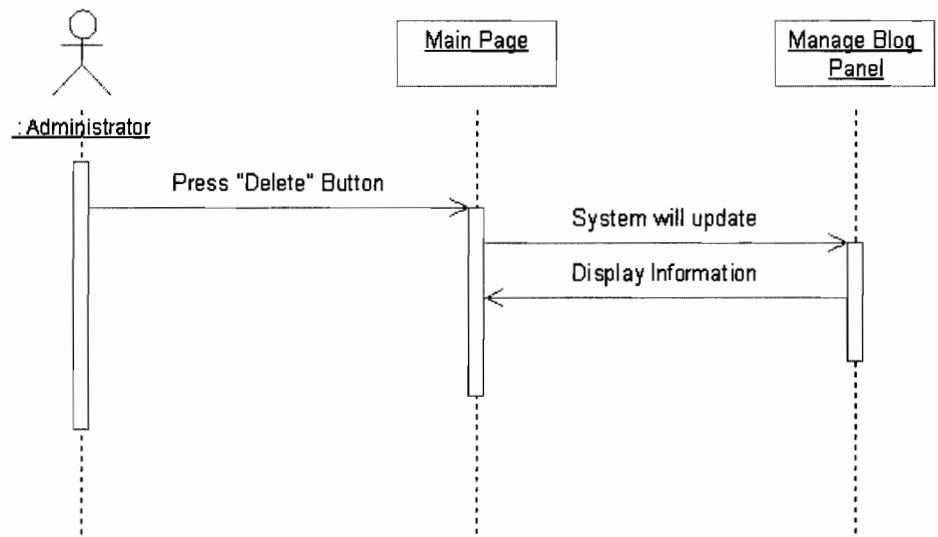


Figure 4.20: Sequence Diagram Manage Blog: Alternative Flow (A1- press delete blog button) [SNHTC\_04\_02]

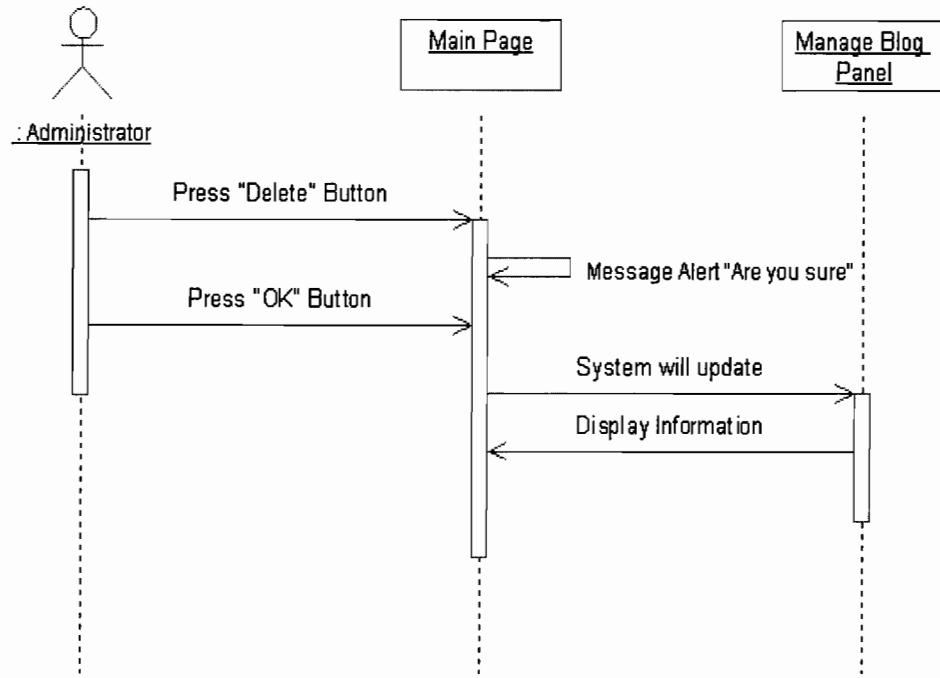


Figure 4.21: Sequence Diagram Manage Blog: Alternative Flow (A2- press delete post button) [SNHTC\_04\_03]

#### 4.8.5 Sequence Diagram: Logout

The member user and administrator can logout the system as shown Figure 4.22. And there are one alternative flow to choose “No” button shown in Figure 4.23.

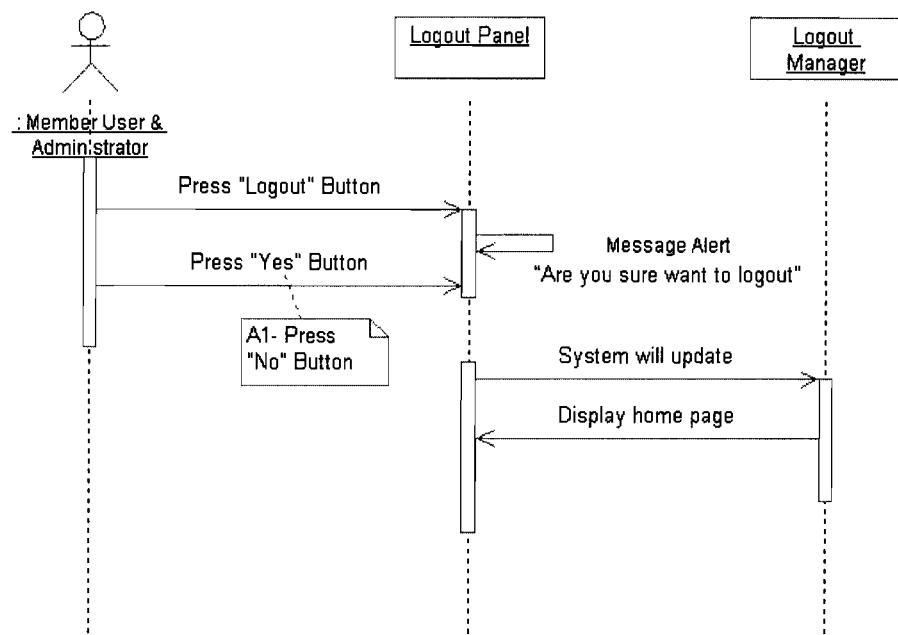


Figure 4.22: Sequence Diagram LogOut: Basic Flow [SNHTC\_05\_01]

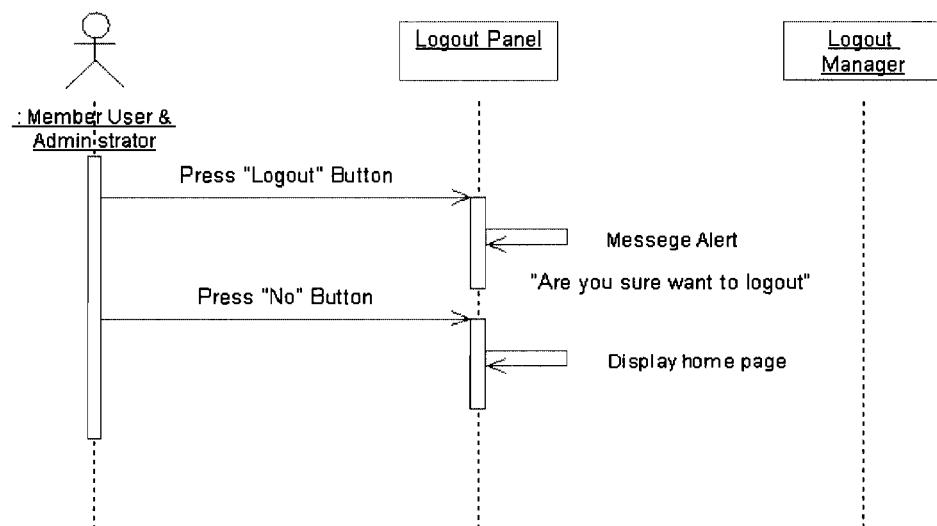


Figure 4.23: Sequence Diagram LogOut: Alternative Flow (A1- press no button)  
[SNHTC\_05\_02]

#### 4.8.6 Sequence Diagram: Create Own Portfolio

In this section, the member user able to create new own portfolio and edit profile. It will enable the member user view friend's profile shown in Figure 4.24. Furthermore, there are two alternative flows to show the process invite friend and browse member as shown Figure 4.25 and 4.26.

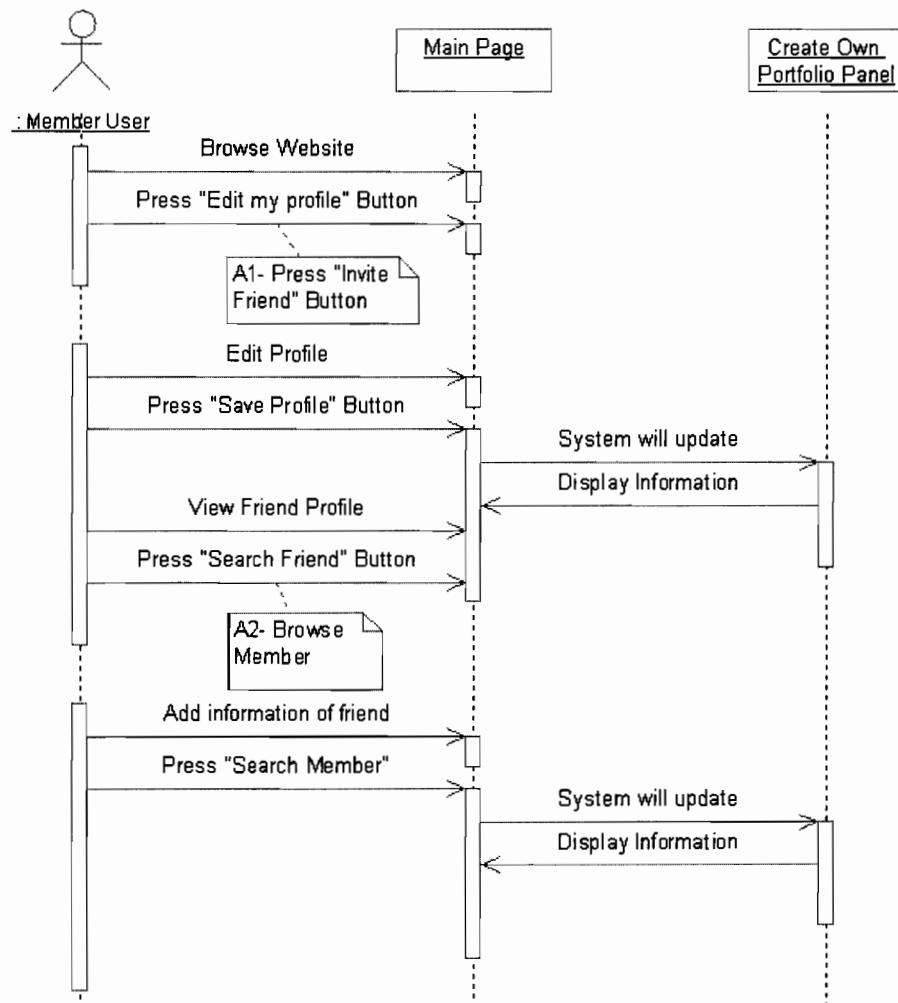


Figure 4.24: Sequence Diagram Create Own Portfolio: Basic Flow [SNHTC\_06\_01]

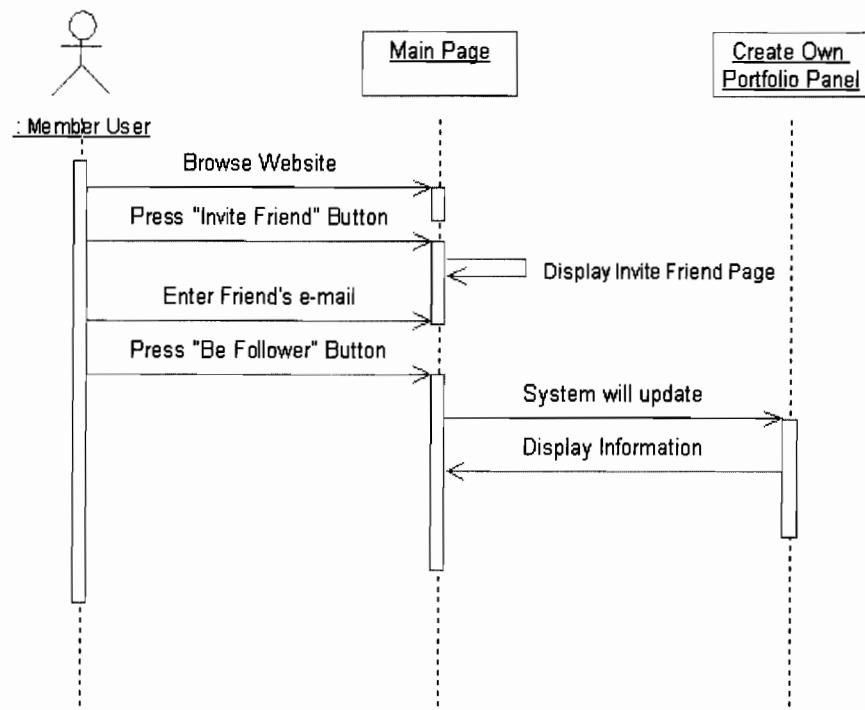


Figure 4.25: Sequence Diagram Create Own Portfolio: Alternative Flow (A1- press invite friend button) [SNHTC\_06\_02]

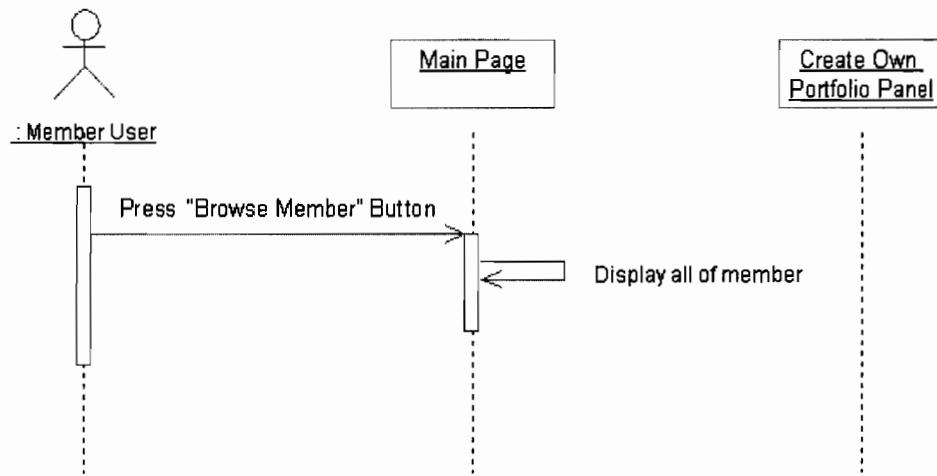


Figure 4.26: Sequence Diagram Create Own Portfolio: Alternative Flow (A2- press browse member button) [SNHTC\_06\_03]

#### 4.8.7 Sequence Diagram: Participated e-Forum Post

This sequence diagram describes the participated e-forum post by member user who can view forum post, write forum post and create forum topic as shown Figure 4.27. And there are two alternative flows to show delete forum post and delete forum topic that shown in Figure 4.28 and 4.29

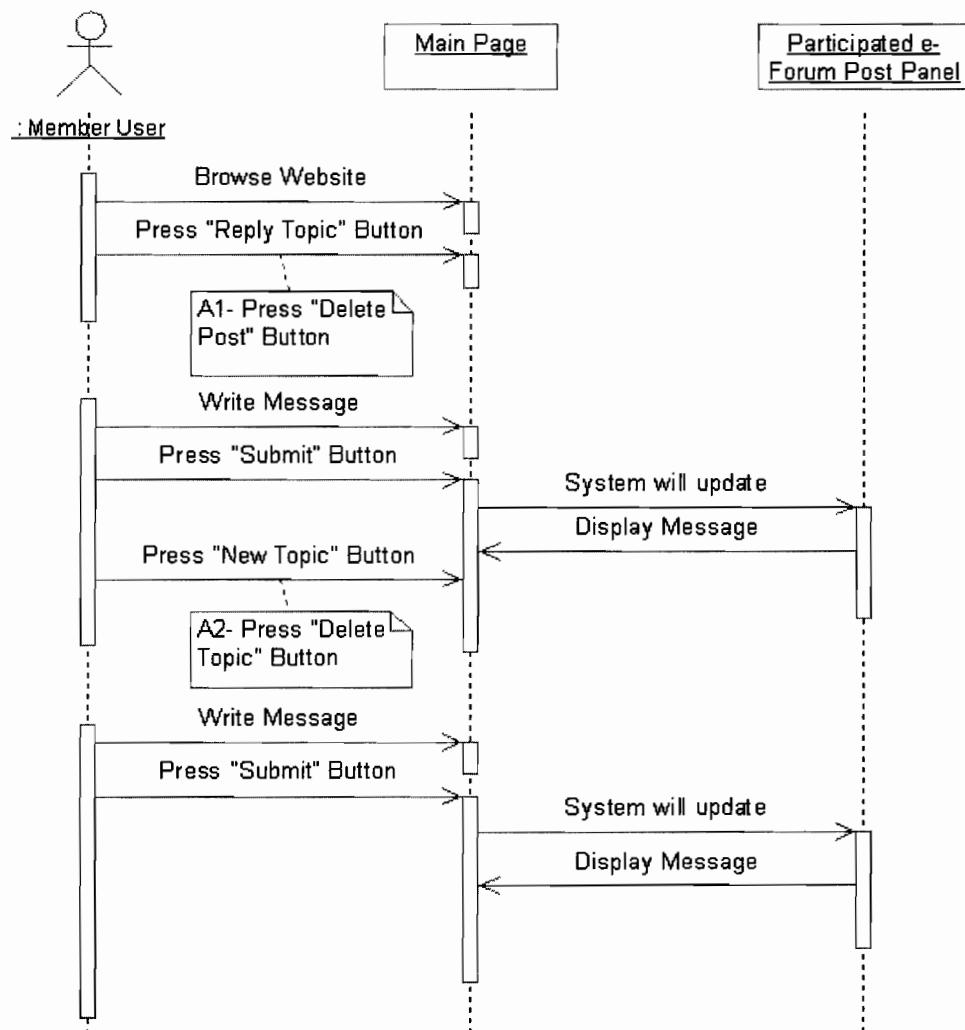


Figure 4.27: Sequence Diagram Participated e-Forum Post: Basic Flow

[SNHTC\_07\_01]

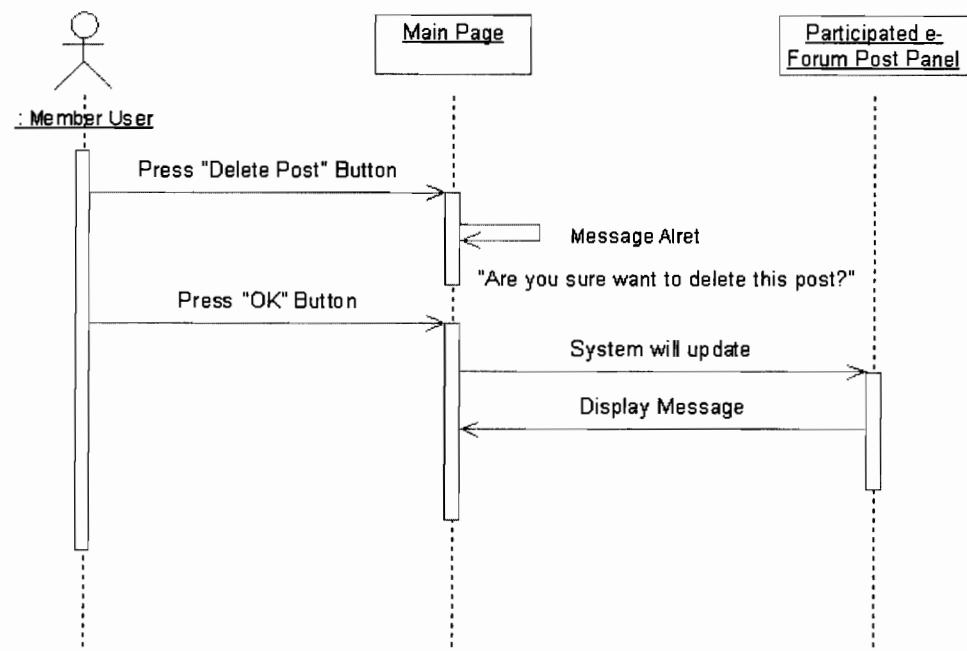


Figure 4.28: Sequence Diagram Participated e-Forum Post: Alternative Flow (A1- press delete post button) [SNHTC\_07\_04]

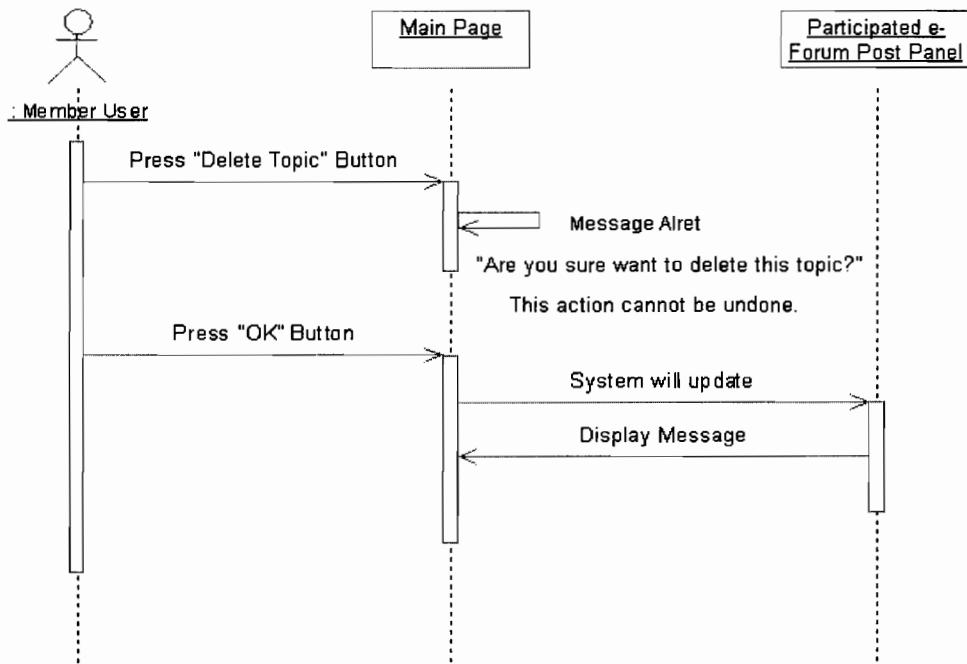


Figure 4.29: Sequence Diagram Participated e-Forum Post: Alternative Flow (A2- press delete topic button) [SNHTC\_07\_05]

#### 4.8.8 Sequence Diagram: Participated Chat Room

This sequence diagram participated chat room by member user who can join in chat room and can set status of user as shown Figure 4.30.

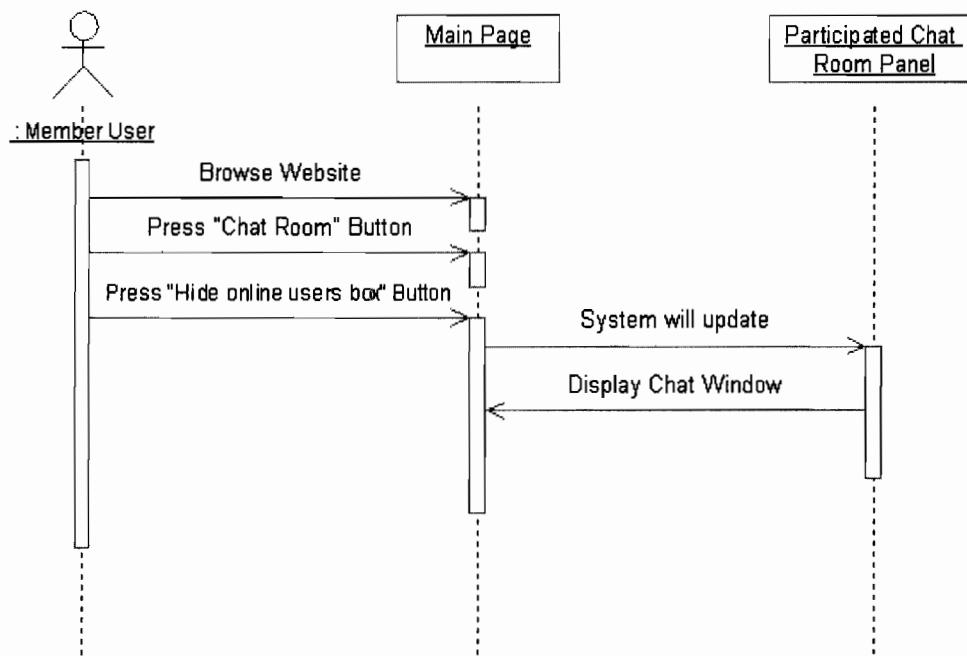


Figure 4.30: Sequence Diagram Participated Chat Room: Basic Flow

[SNHTC\_08\_01]

#### 4.8.9 Sequence Diagram: Participated Blog

This sequence diagram participated blog describes the interaction between member user and blog system. The member user can create and modify their blog, view friend blog and comment friend's blog as shown Figure 4.31. Moreover, there are two alternative flows to edit post and delete post shown in Figure 4.32 and 4.33.

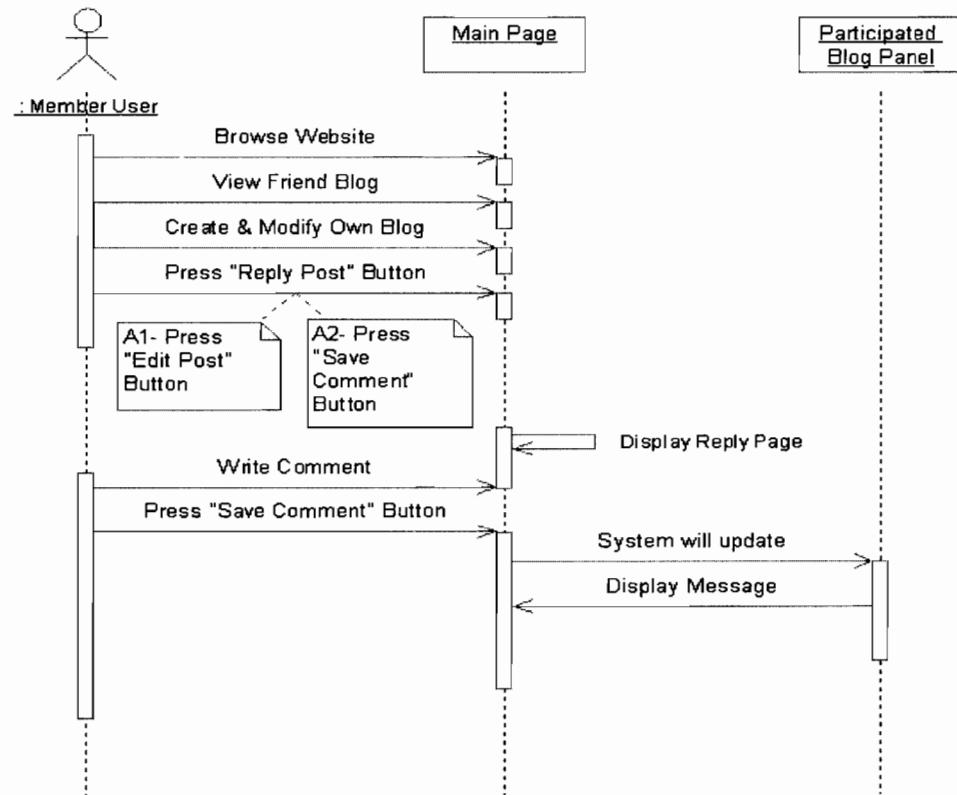


Figure 4.31: Sequence Diagram Participated Blog: Basic Flow [SNHTC\_09\_01]

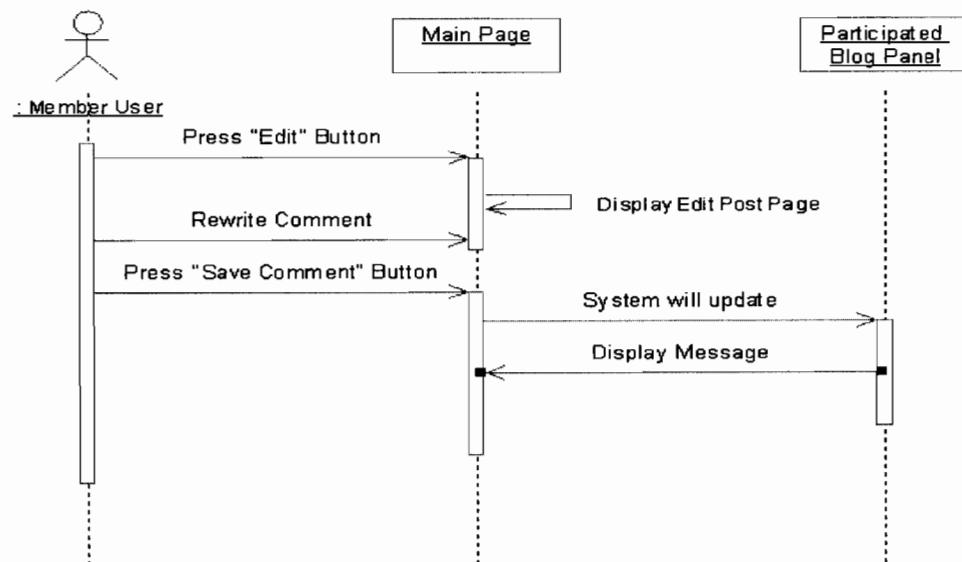


Figure 4.32: Sequence Diagram Participated Blog: Alternative Flow (A1- press edit post button) [SNHTC\_09\_03]

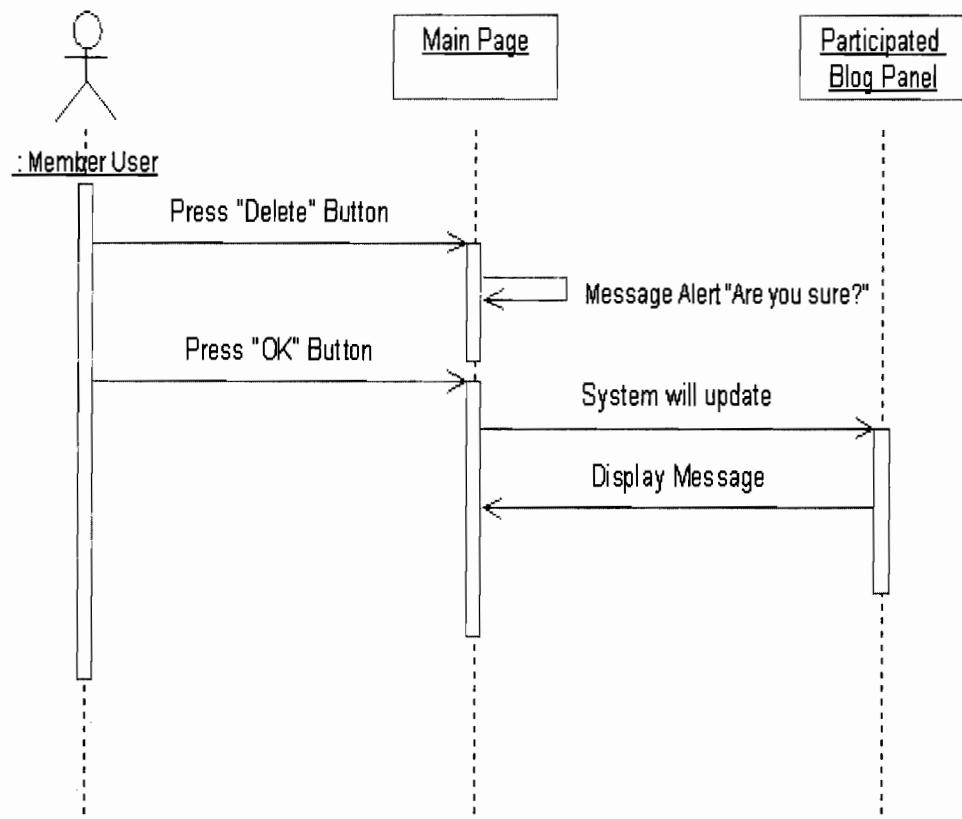


Figure 4.33: Sequence Diagram Participated Blog: Alternative Flow (A2- press delete post button) [SNHTC\_09\_03]

#### 4.8.10 Sequence Diagram: Register

In the section, Guest able to create new account through creates username and password for login into the system as shown Figure 4.34. In addition, there are one exceptional flow to show “duplicate username” when the process has double username shown in Figure 4.35.

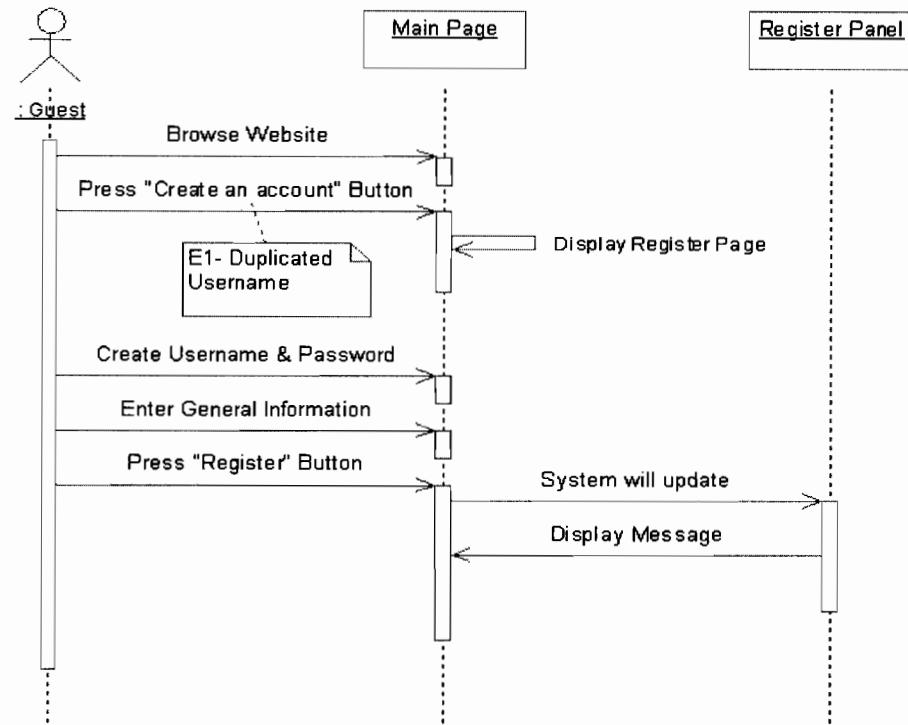


Figure 4.34: Sequence Diagram Register: Basic Flow [SNHTC\_10\_01]

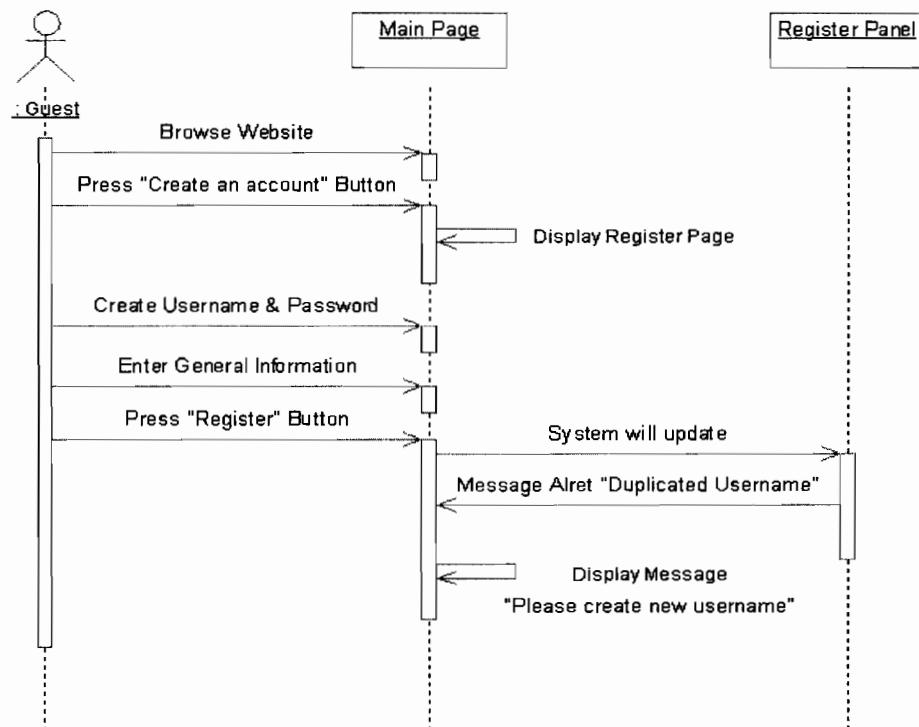


Figure 4.35: Sequence Diagram Register: Exceptional Flow (E1- duplicated username) [SNHTC\_10\_02]

#### 4.8.11 Sequence Diagram: View Basic Information

This sequence diagram is view basic information by guest who can view e-forum post and blog as shown Figure 4.36.

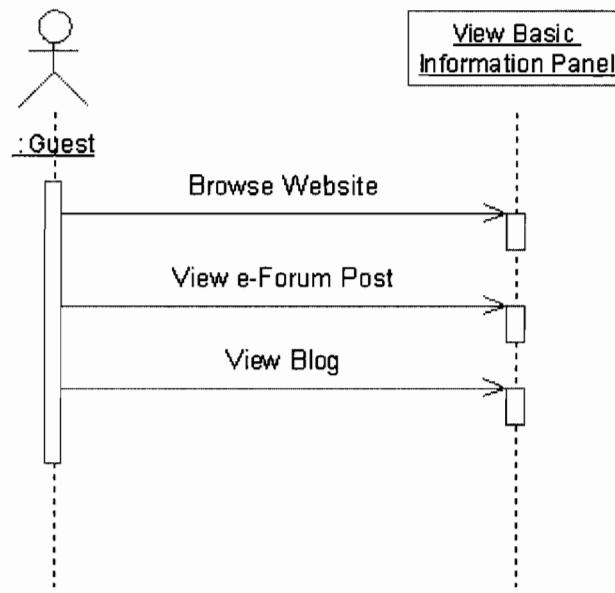


Figure 4.36: Sequence Diagram View Basic Information: Basic Flow

[SNHTC\_11\_01]

#### 4.9 Collaboration Diagram

A collaboration diagram, also called a communication diagram or interaction diagram, is an illustration of the relationships and interactions among software objects in the Unified Modelling Language (UML) (Collaboration diagram, 2011). In this section, collaboration diagram present the process operation all of use case.

#### 4.9.1 Collaboration Diagram: Login

Figure 4.37 shown login system in collaboration diagram. The member user and administrator must login on their system through username and password that available in database. Then, there is exceptional flow to present the process that username and password not match shown in the figure 4.38.

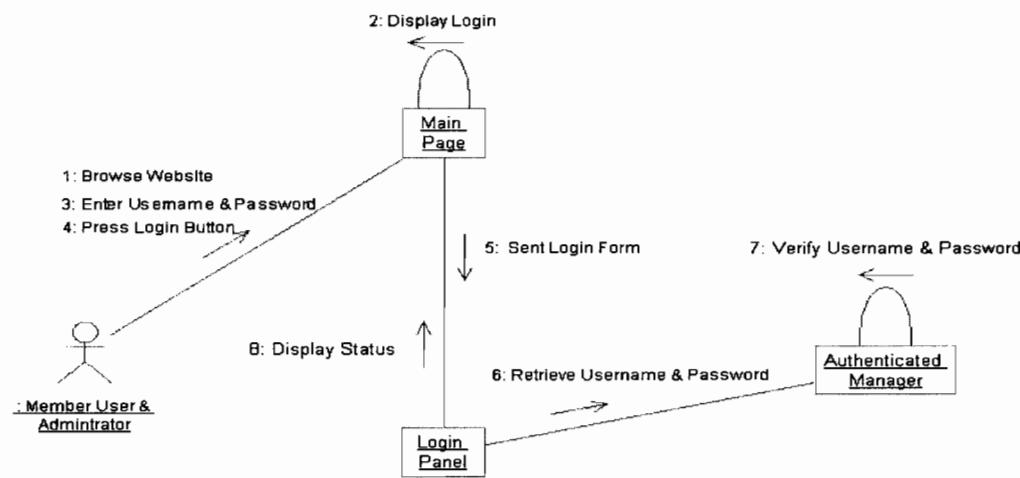


Figure 4.37: Collaboration Diagram Login: Basic Flow [SNHTC\_01\_01]

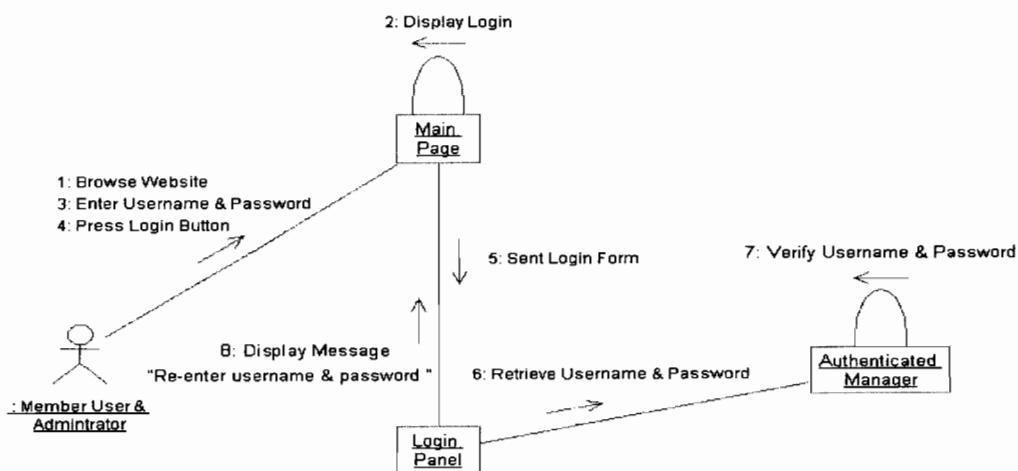


Figure 4.38: Collaboration Diagram Login: Exceptional Flow (E1- username & password not match) [SNHTC\_01\_02]

#### 4.9.2 Collaboration Diagram: Manage e-Forum

This collaboration diagram manages e-Forum by administrator. The administrator enables to create forum, reply forum topic, and move forum topic in this system (Figure 4.39). Moreover, there are two alternative flows to delete forum post and delete forum topic shown in The Figure 4.40 and 4.41.

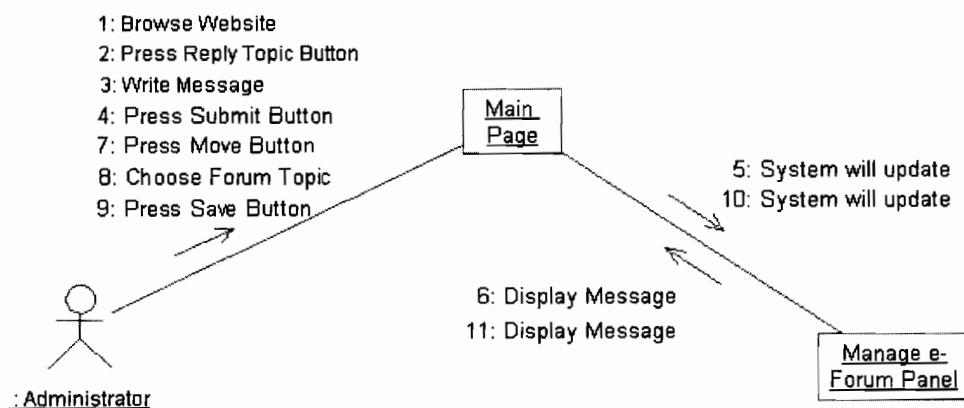


Figure 4.39: Collaboration Diagram Manage e-Forum: Basic Flow [SNHTC\_02\_01]

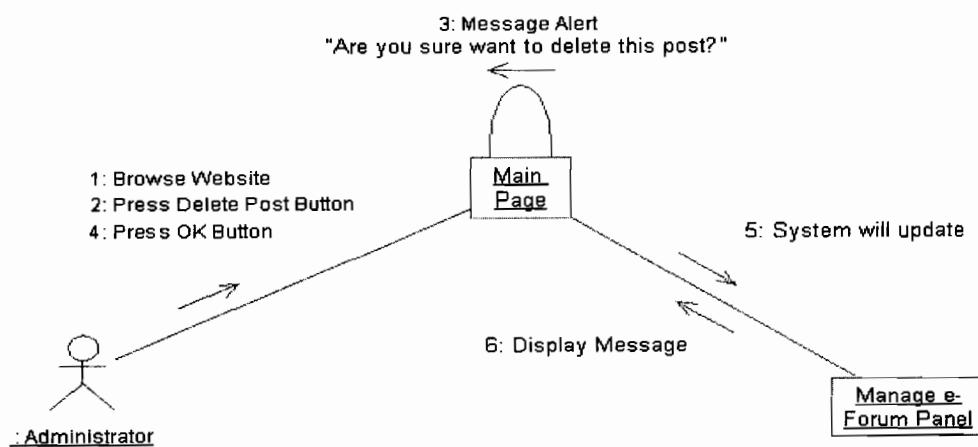


Figure 4.40: Collaboration Diagram Manage e-Forum: Alternative Flow (A1- press delete post button) [SNHTC\_02\_04]

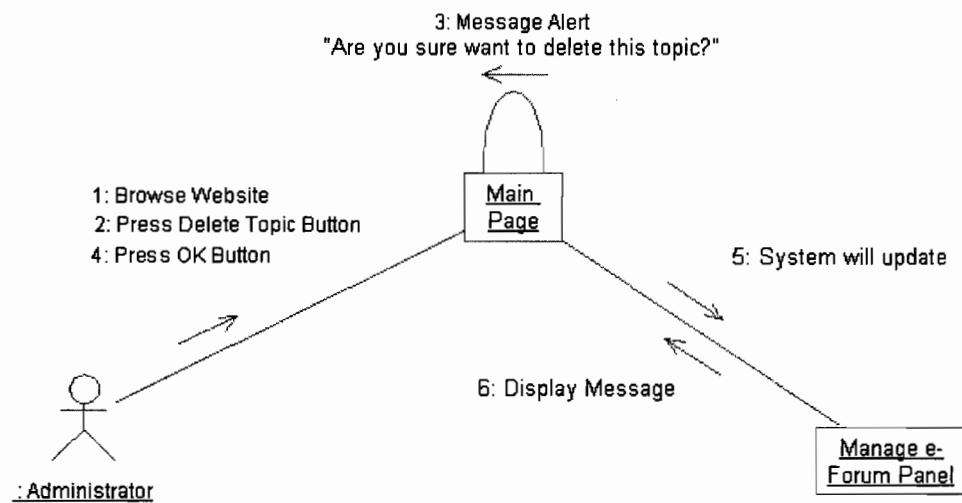


Figure 4.41: Collaboration Diagram Manage e-Forum: Alternative Flow (A2- press delete topic button) [SNHTC\_02\_05]

#### 4.9.3 Collaboration Diagram: Manage Chat Room

In the section manage chat room, the administrator able to create chat room and delete user as shown Figure 4.42 and has one alternative flow shown in Figure 4.43.

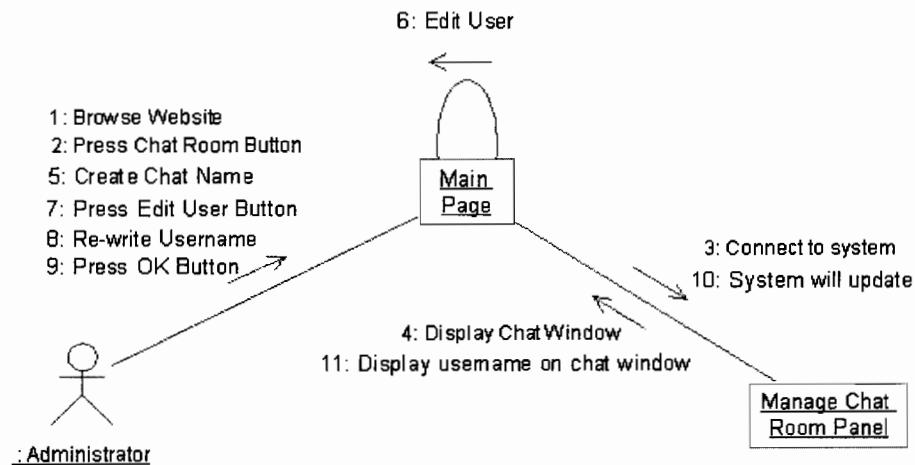


Figure 4.42: Collaboration Diagram Manage Chat Room: Basic Flow [SNHTC\_03\_01]

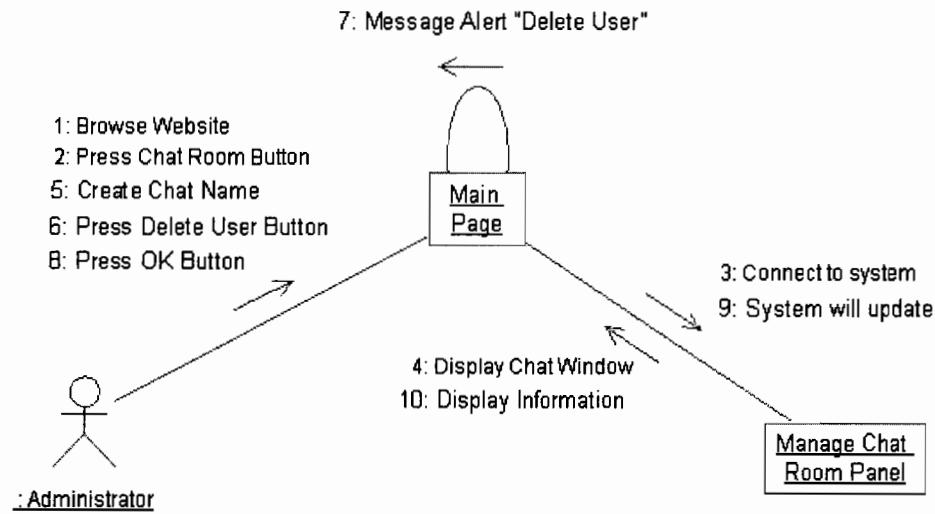


Figure 4.43: Collaboration Diagram Manage Chat Room: Alternative Flow (A1- press delete user button) [SNHTC\_03\_02]

#### 4.9.4 Collaboration Diagram: Manage Blog

This collaboration diagram manages blog by administrator. The administrator enables to create blog as shown Figure 4.44. They have two alternative flows to delete blog and delete blog comment as shown Figure 4.45 and 4.46.

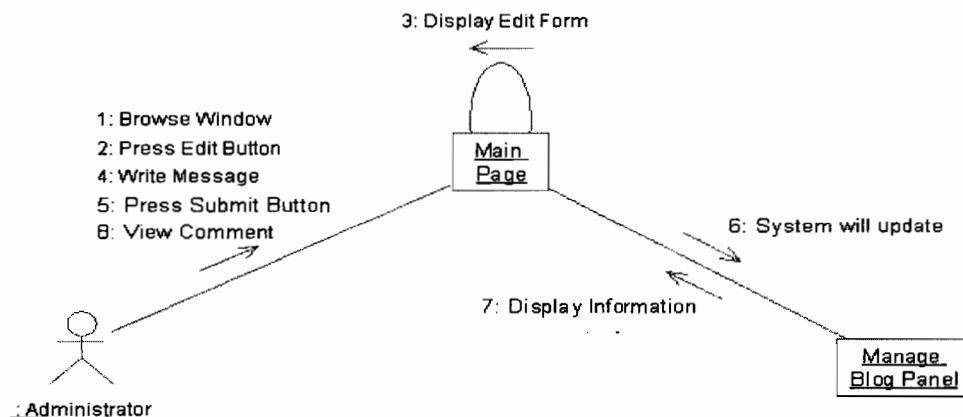


Figure 4.44: Collaboration Diagram Manage Blog: Basic Flow [SNHTC\_04\_01]

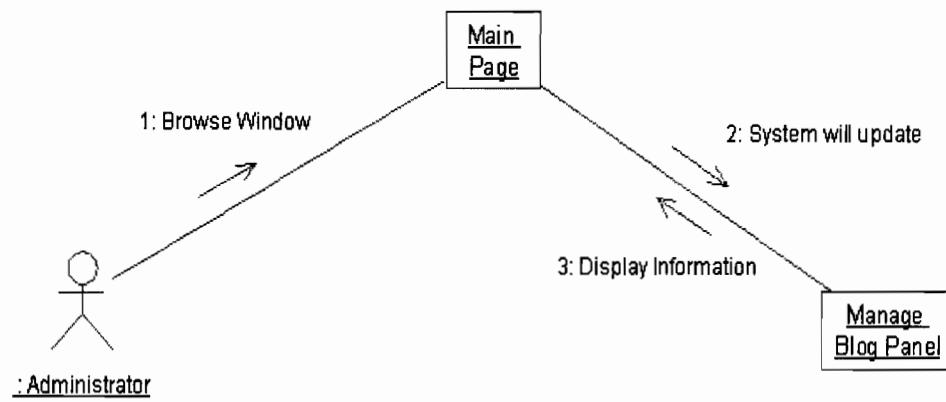


Figure 4.45: Collaboration Diagram Manage Blog: Alternative Flow (A1- press delete blog button) [SNHTC\_04\_02]

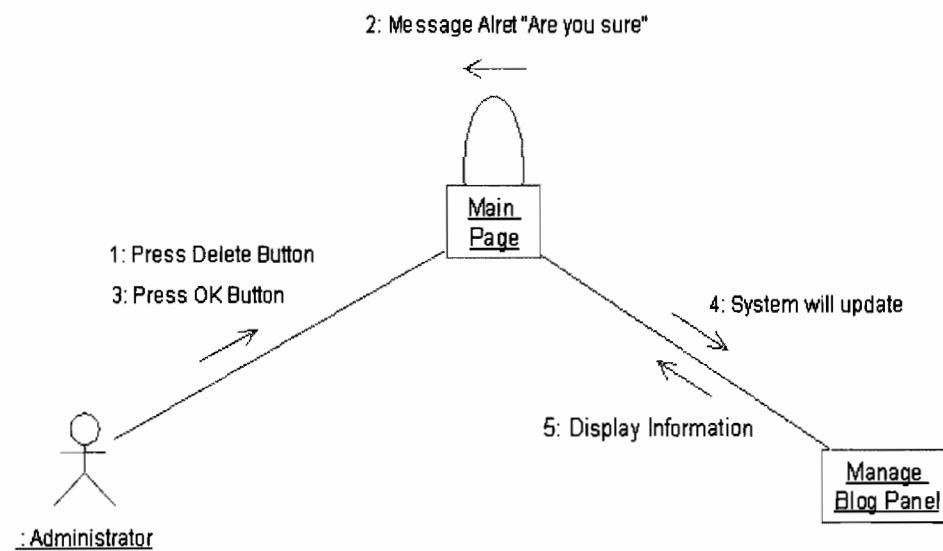


Figure 4.46: Collaboration Diagram Manage Blog: Alternative Flow (A2- press delete post button) [SNHTC\_04\_03]

#### 4.9.5 Collaboration Diagram: Logout

The member user and administrator can logout the system as shown Figure 4.47. And there are one alternative flow to choose “No” button shown in Figure 4.48.

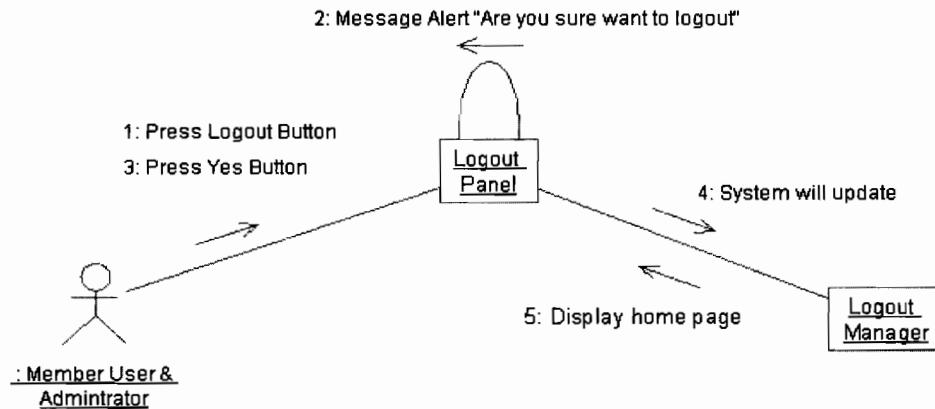


Figure 4.47: Collaboration Diagram Logout: Basic Flow [SNHTC\_05\_01]

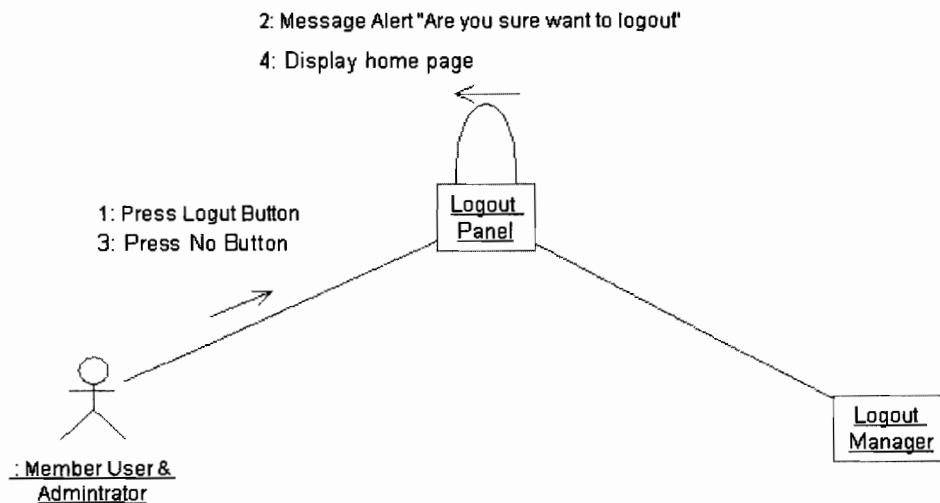


Figure 4.48: Collaboration Diagram Logout: Alternative Flow (A1- press no button)

[SNHTC\_05\_02]

#### 4.9.6 Collaboration Diagram: Create Own Portfolio

The member user able to create new own portfolio and edit profile. It will enable the member user view friend's profile shown in Figure 4.49. Furthermore, there are two alternative flows to show the process invite friend and browse member as shown Figure 4.50 and 4.51.

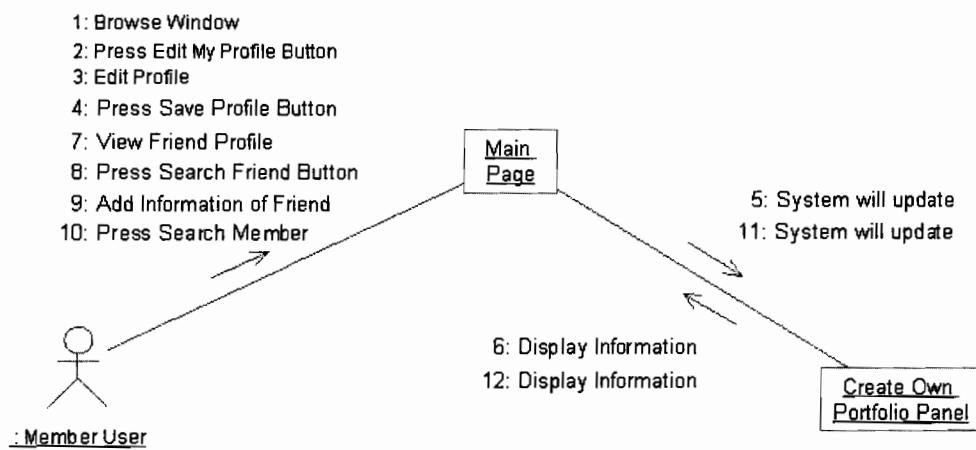


Figure 4.49: Collaboration Diagram Create Own Portfolio: Basic Flow  
 [SNHTC\_06\_01]

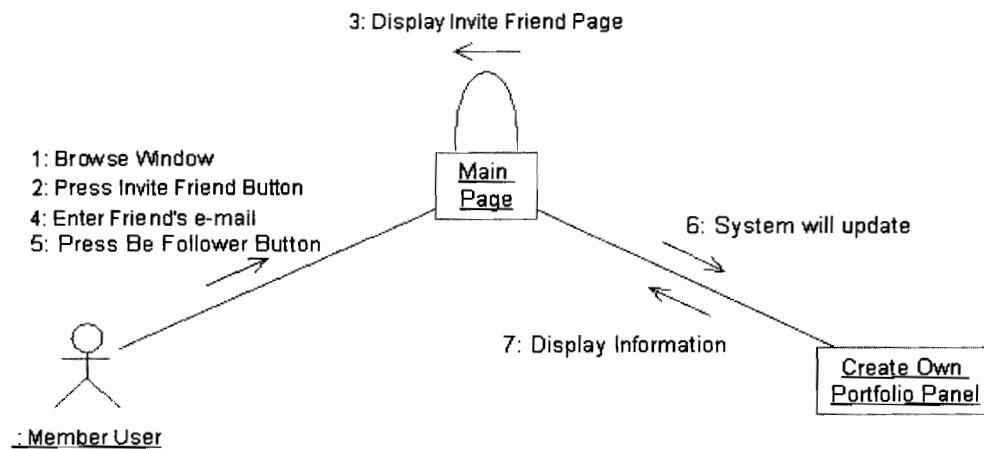


Figure 4.50: Collaboration Diagram Create Own Portfolio: Alternative Flow (A1-press invite friend button) [SNHTC\_06\_02]

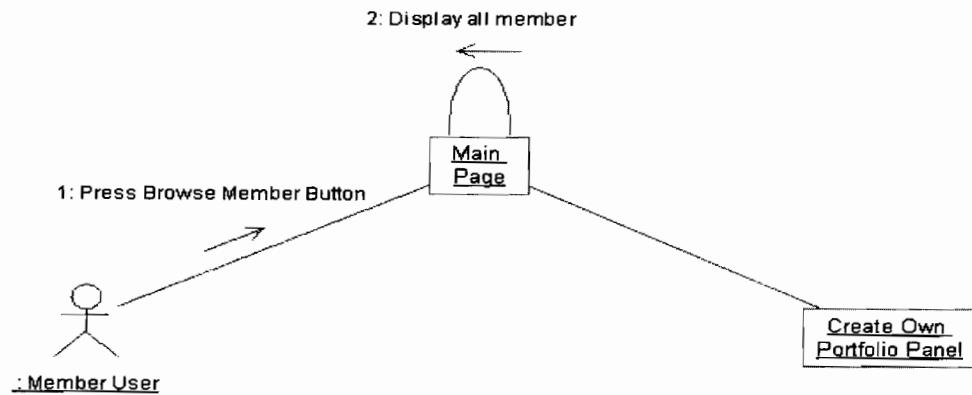


Figure 4.51: Collaboration Diagram Create Own Portfolio: Alternative Flow (A2-press browse member button) [SNHTC\_06\_03]

#### 4.9.7 Collaboration Diagram: Participated e-Forum Post

This collaboration diagram describes the participated e-forum post by member user who can view forum post, write forum post and create forum topic as shown Figure 4.52. And there are two alternative flows to show delete forum post and delete forum topic that shown in Figure 4.53 and 4.54.

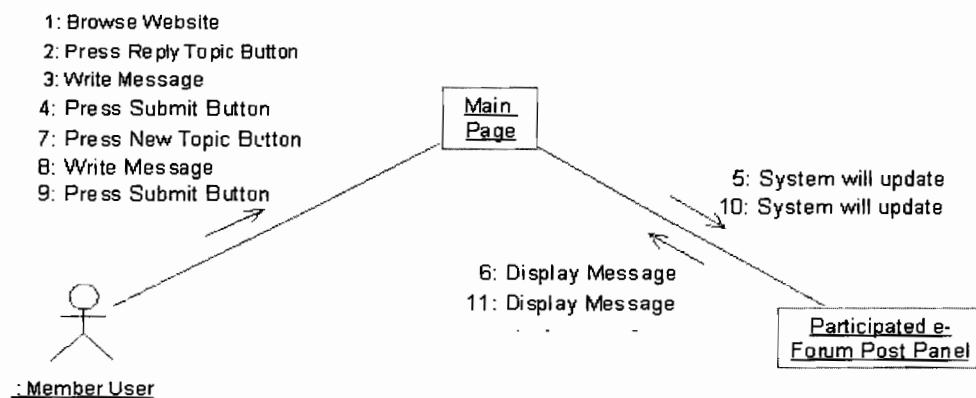


Figure 4.52: Collaboration Diagram Participated e-Forum Post: Basic Flow [SNHTC\_07\_01]

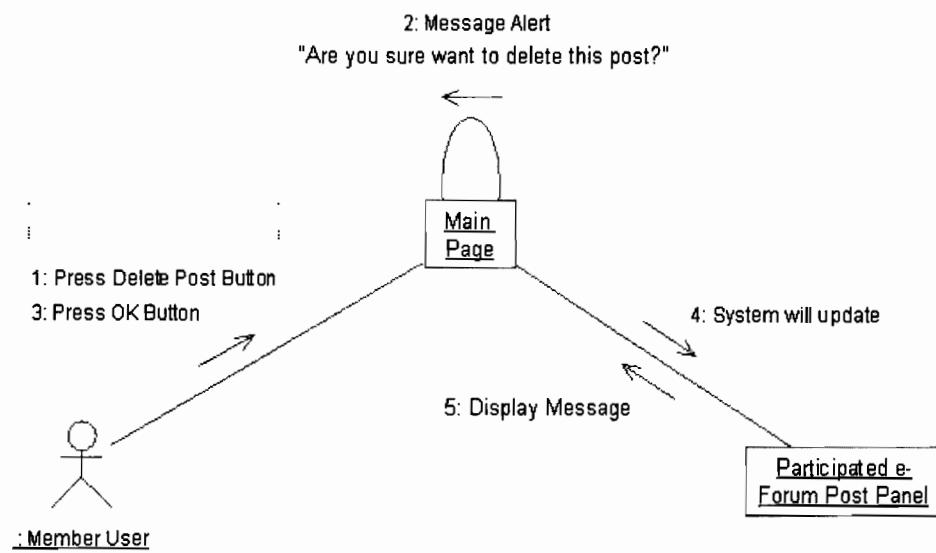


Figure 4.53: Collaboration Diagram Participated e-Forum Post: Alternative Flow (A1-press delete post button) [SNHTC\_07\_04]

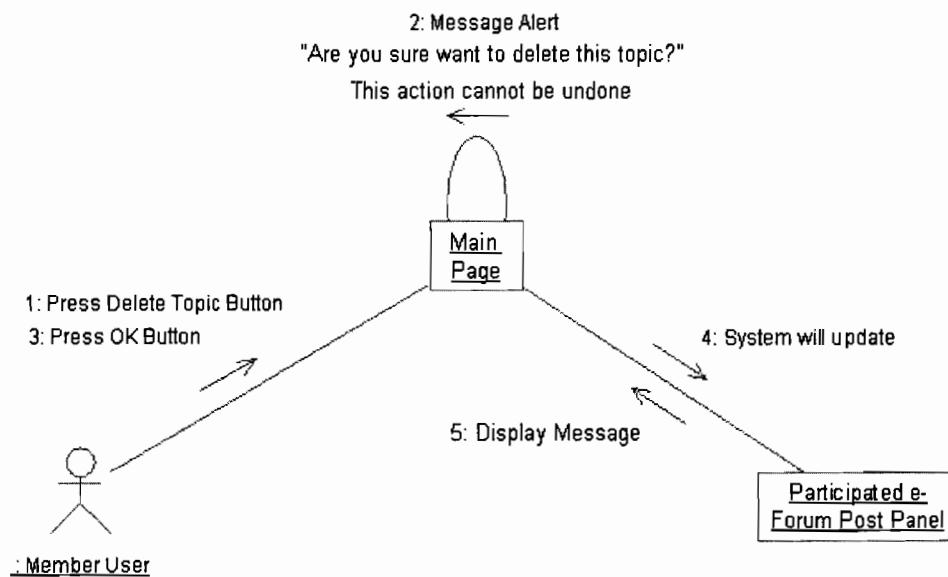


Figure 4.54: Collaboration Diagram Participated e-Forum Post: Alternative Flow (A2-press delete topic button) [SNHTC\_07\_05]

#### 4.9.8 Collaboration Diagram: Participated Chat Room

This collaboration diagram participated chat room by member user who can join in chat room and can set status of user as shown Figure 4.55.

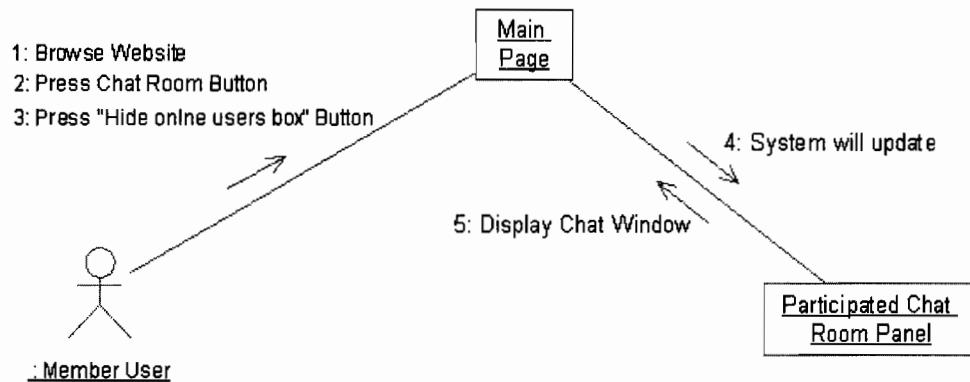


Figure 4.55: Collaboration Diagram Participated Chat Room: Basic Flow

[SNHTC\_08\_01]

#### 4.9.9 Collaboration Diagram: Participated Blog

This collaboration diagram participated blog describes the interaction between member user and blog system. The member user can create and modify their blog, view friend blog and comment friend's blog as shown Figure 4.56. Moreover, there are two alternative flows to edit post and delete post shown in Figure 4.57 and 4.58.

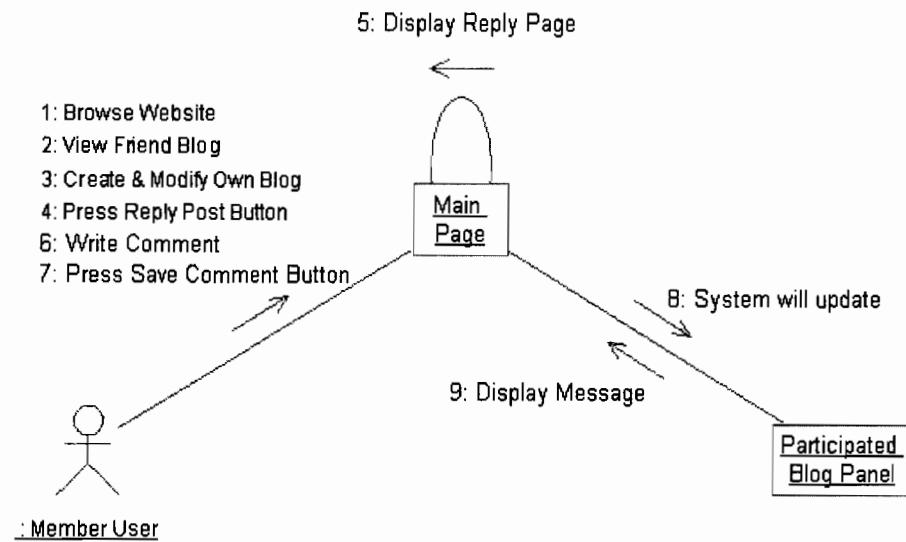


Figure 4.56: Collaboration Diagram Participated Blog: Basic Flow [SNHTC\_09\_01]

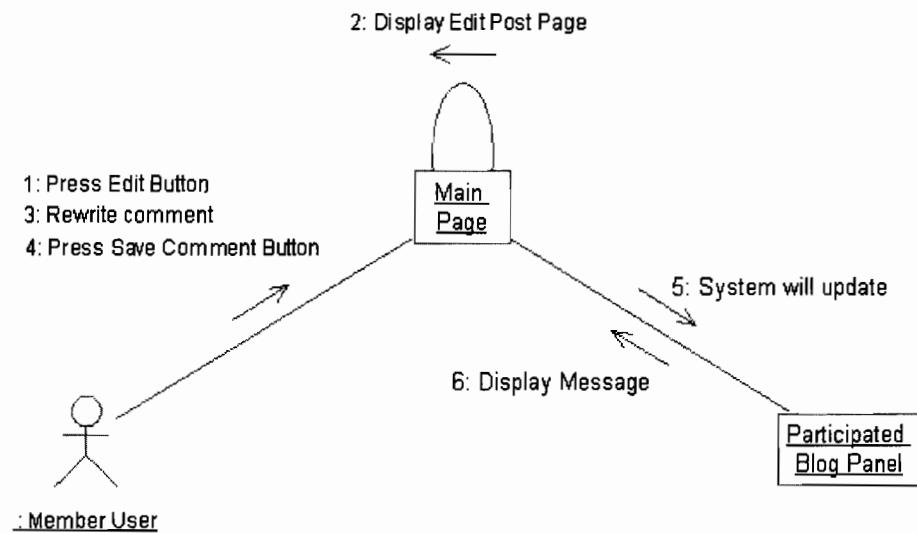


Figure 4.57: Collaboration Diagram Participated Blog: Alternative Flow (A1- press edit post button) [SNHTC\_09\_03]

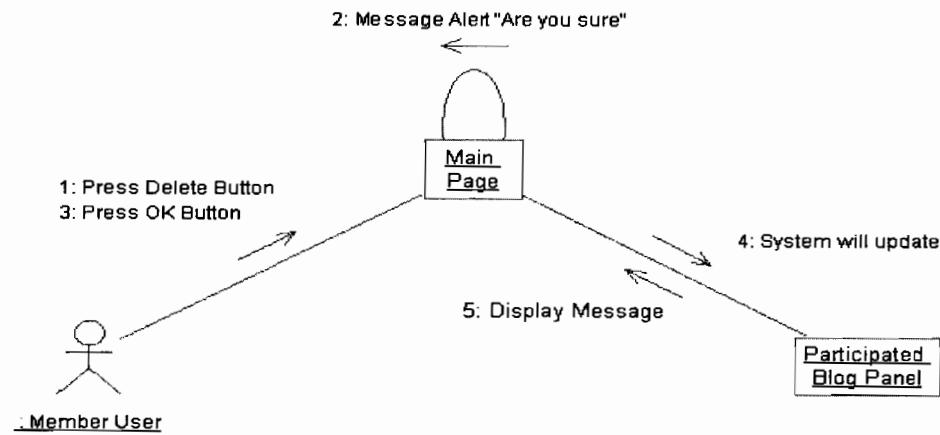


Figure 4.58: Collaboration Diagram Participated Blog: Alternative Flow (A2- press delete post button) [SNHTC\_09\_03]

#### 4.9.10 Collaboration Diagram: Register

In the section, Guest able to create new account through creates username and password for login into the system as shown Figure 4.59. In addition, there are one exceptional flow to show “duplicate username” when the process has double username shown in Figure 4.60.

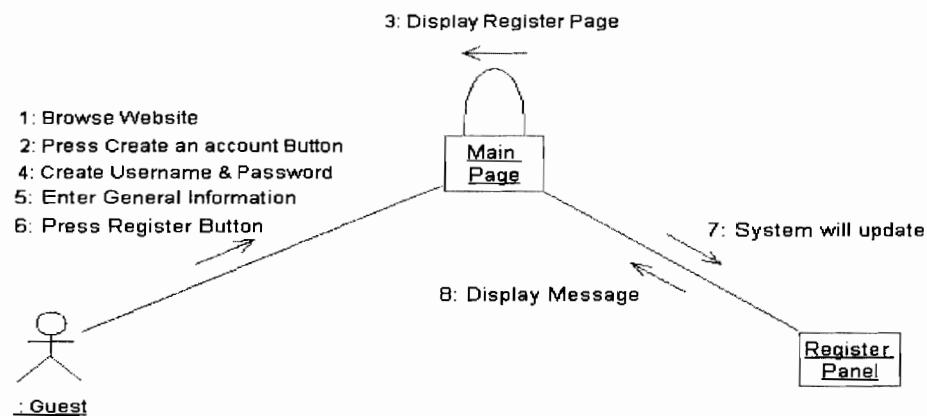


Figure 4.59: Collaboration Diagram Register: Basic Flow [SNHTC\_10\_01]

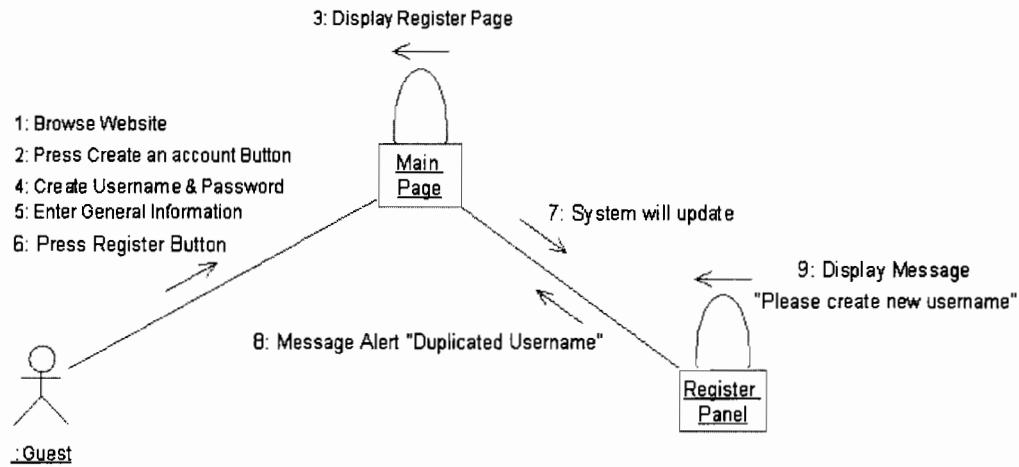


Figure 4.60: Collaboration Diagram Register: Exceptional Flow (E1- duplicated username) [SNHTC\_10\_02]

#### 4.9.11 Collaboration Diagram: View Basic Information

This sequence diagram is view basic information by guest who can view e-forum post and blog as shown Figure 4.61.

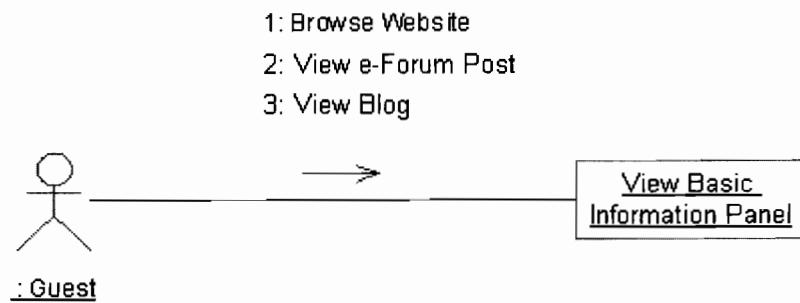


Figure 4.61: Collaboration Diagram View Basic Information: Basic Flow [SNHTC\_11\_01]

## 4.10 Class Diagram

A class diagram in the unified modelling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes their attributes, and the relationships between the classes (Wikipedia, 2011). The figure 4.62 presents the class diagram in this research. There are 7 classes diagram to show the relationship in each class and to show detail of the attributed and operation such as Login, Administrator, Blog, e-Forum, Chat Room, Member User and Contact Us.

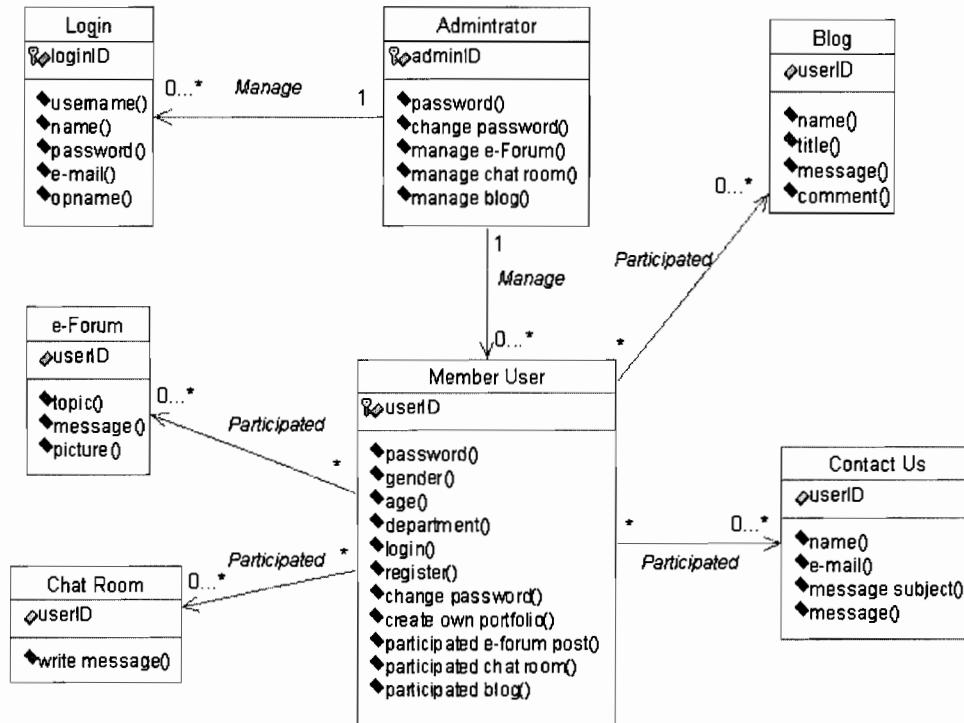


Figure 4.62: Class Diagram of HTC social network learning site

## 4.11 Design Prototype

The design prototype should follow to analysis data requirement from respondents such as page layout, color scheme, background, navigation system, hyperlink, content and etc. Hence, in this prototype has 8 main pages that respond users consist of Front Page, Student Profile Page, e-Forum Page, Chat Room Page, My Blog Page, Learn English with Music Page, Contact Us Page and Site Map Page. The following has presented some figure of HTC social network learning site.

### 4.11.1 Front Page

Figure 4.63 and Figure 4.64 is shown the front interface of the system. To access the system, member user must login into the system. Only valid username and password can access the system.

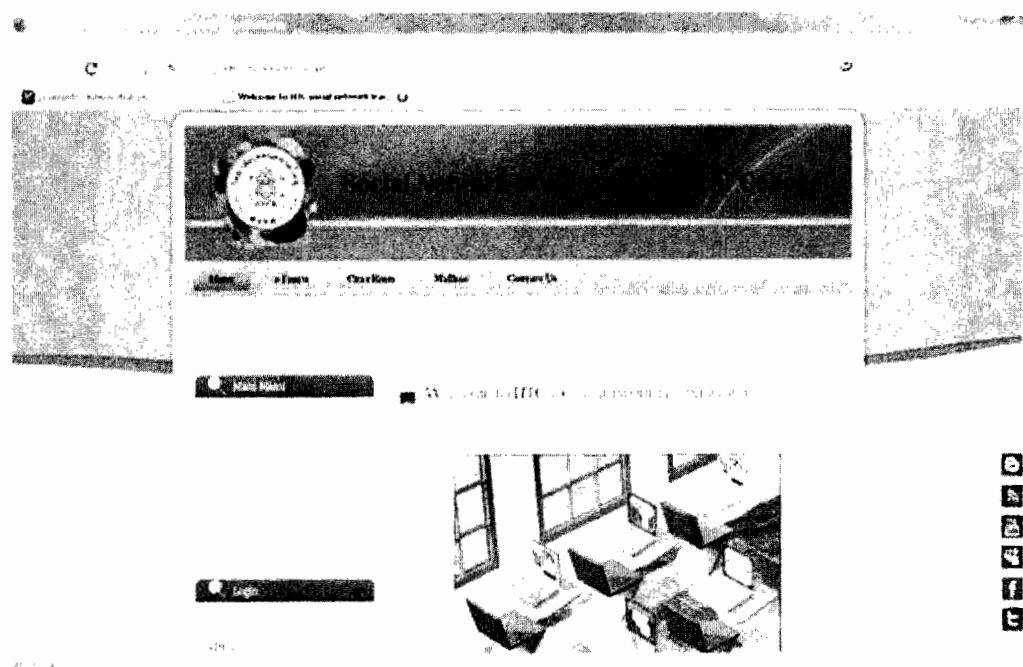


Figure 4.63: Front Page Interface

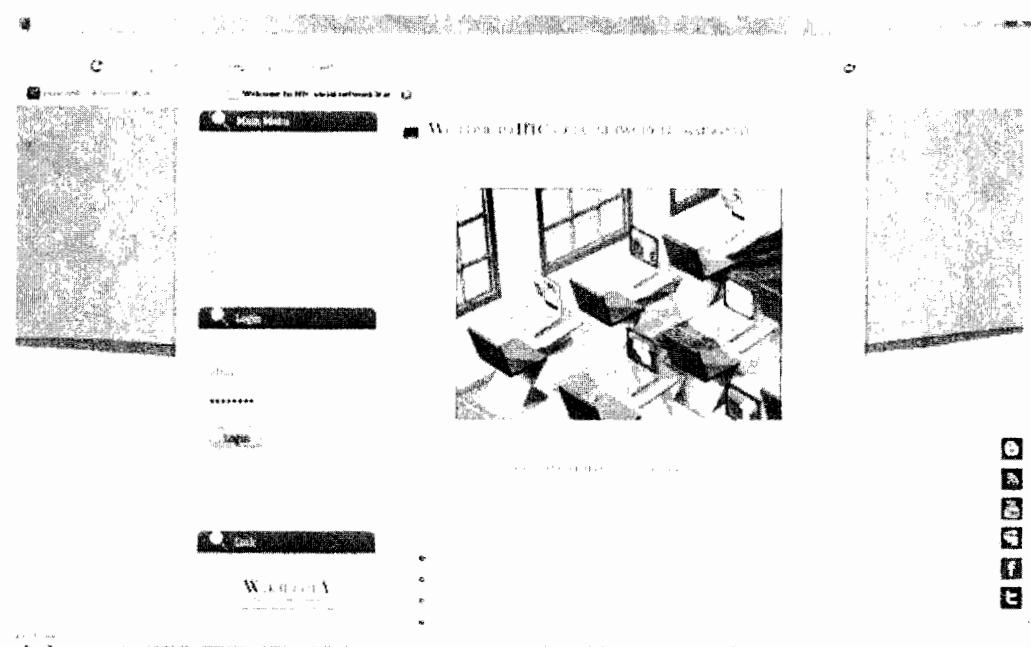


Figure 4.64: Front Page2 Interface

#### 4.11.2 Student Profile Page

For the student profile page, member user can create the own profile portfolio as shown in 4.65

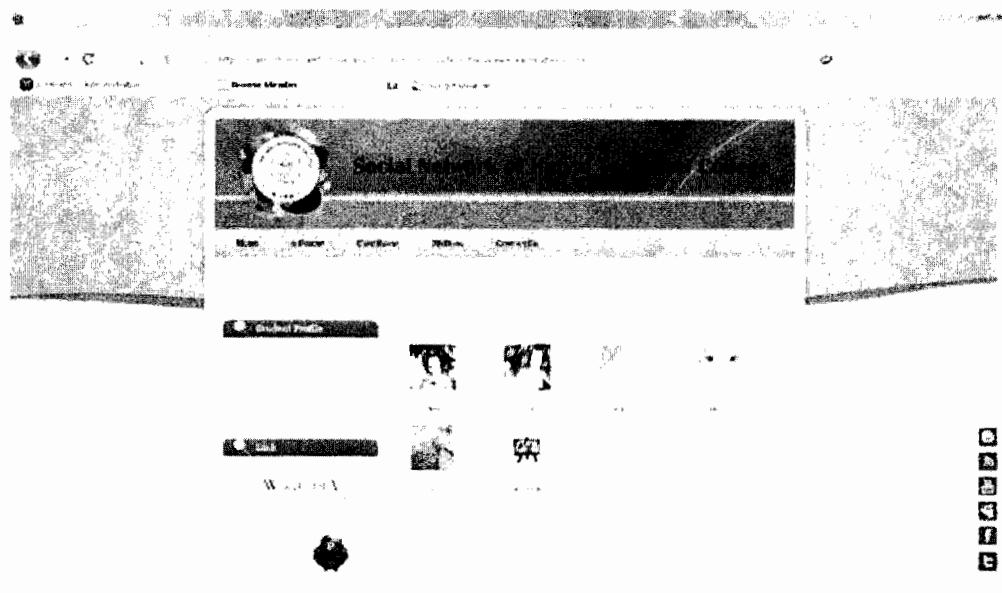


Figure 4.65: Student Profile Page Interface

#### 4.11.3 e-Forum Page

Figure 4.66 is shown e-Forum page interface which able to share the information and knowledge to their friends.

	Topics	Posts	Last post
Welcome to HTC e-Forum which webboard that Students and Lecture can share any idea and knowledge each other.	1	1	Greeting From Administrator by admin 29 minutes ago
Rule of HTC e-Forum There are rule of HTC e-Forum post.	1	1	Rule of HTC e-Forum post by a linear 26 Mar 10
Notice Shared depend on Subject	1	1	Please Share depend on Subject by admin 26 Mar 10
Any Problem :: Contact Administrator Any Problem :: Contact Administrator	1	1	Contact Administrator by admin 18 Jul 10

[New Topic](#) [Edit Topic](#)

Figure 4.66: e-Forum Page Interface

#### 4.11.4 Chat Room Page

Figure 4.67 is shown Chat Room interface which member user can chat real-time communication.

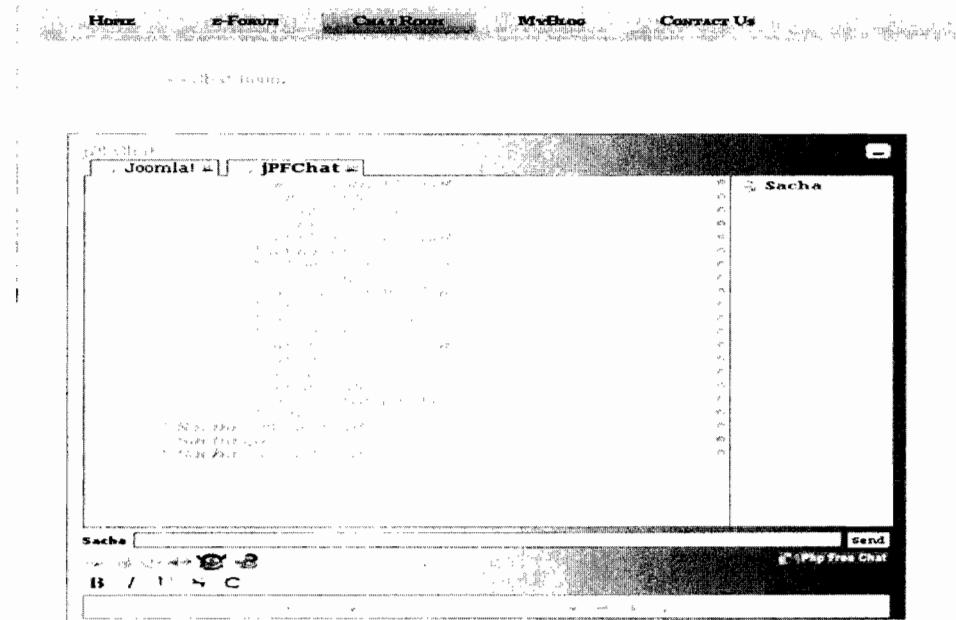


Figure 4.67: Chat Room Interface

#### 4.11.5 My Blog Page

The member user can write information by create own blog and able to post comment on friend's blog as shown in Figure 4.68, 4.69 and 4.70.

A screenshot of a blog editor interface. At the top, there is a toolbar with icons for bold, italic, underline, and other styling options. Below the toolbar, the word "Title" is followed by a text input field containing "Write to blog". Under the title input, there is a "Styles" dropdown menu and a "Paragraph" dropdown menu. The main content area is a large, empty text box. At the bottom of the interface, there is a "File archive" section with a "Select file" input field, a "Browse" button, and an "Upload" button. The entire interface is set against a light gray background.

Figure 4.68: Write the New Blog Interface

## Talk about : How to share knowledge?

Why should we share 'our' knowledge? Is it not after all the vital capital of researchers/research institutions? Is it our role to share it? Do we have the capacity to do this sharing? Isn't it time-consuming and resource-heavy? And, what do we (and our institutes) gain?

These are the comments and remarks that I often hear when the subjects of knowledge sharing and open access are being discussed by my fellow researchers. And the last question 'What do we gain?' is particularly important to them.

In order for researchers and research institutes to carry out knowledge sharing activities themselves, there must be some benefit to them and their institutes. This can range from greater visibility, improved fundraising potential, enhanced partnerships or better contribution to impact.

What benefit do YOU perceive or have YOU received from making your research information more available, accessible, and applicable?

- Could/has it enhanced your publication record?
- Could/has it made you more well known in your field or for your work?
- Does it make your project/Institute more visible?
- Does it improve your research because you also get more information freely available?
- Does it make your partnerships and collaborative efforts better because partners can access information better?
- Does it create any impact from your project?
- Does it fulfill a requirement by donors to your institute/projects?

Or what else? Please share your thoughts and experiences with us.

Tags:

[Edit](#) | [Delete](#) | Hits: 0 | [Read more...](#)



admin

## Figure 4.69: Blog Interface1

## Talk about : social network learning site

How benefit they have

Let's share on this blog ^\_..^



admin

Tags:

[Edit](#) | [Delete](#) | Hits: 0 | [Read more...](#)

## admin test

admin test



admin

Tags:

[Edit](#) | [Delete](#) | [Comments 1](#) | Hits: 7 | [Read more...](#)

## Figure 4.70: Blog Interface2

#### 4.11.6 Learn English with Music Page

Figure 4.71 is shown the Learn English with Music Page which share the vocabulary English through music. All students able to join in this part.

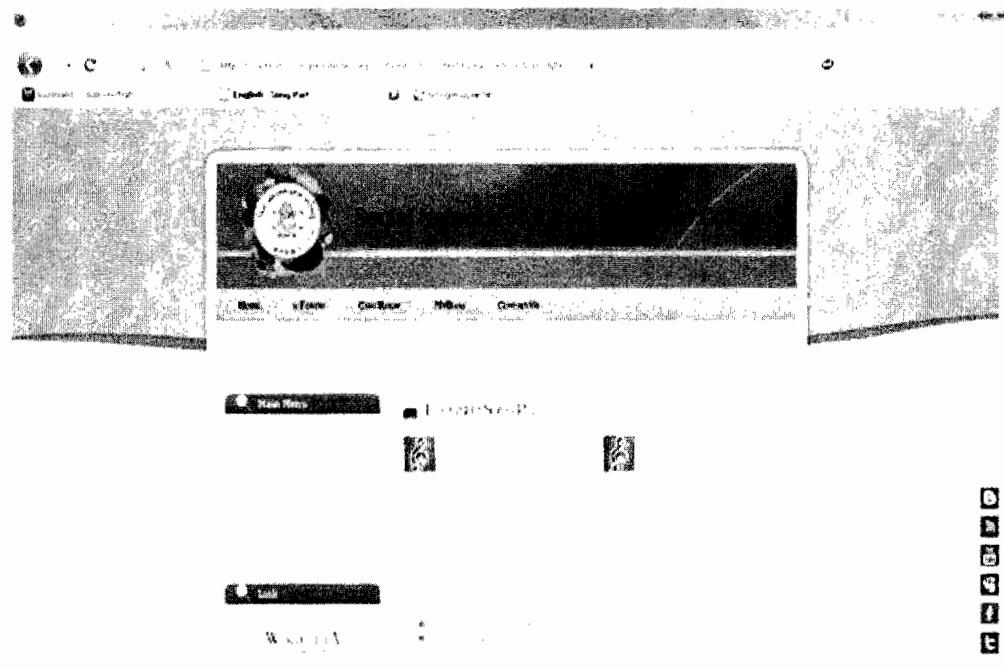


Figure 4.71: Learn English with Music Page Interface

#### 4.11.7 Contact Us Page

Contact us page able to use when the member user have some problem inside this website. They can write the problem and send to administrator to solve it as shown in Figure 4.72.

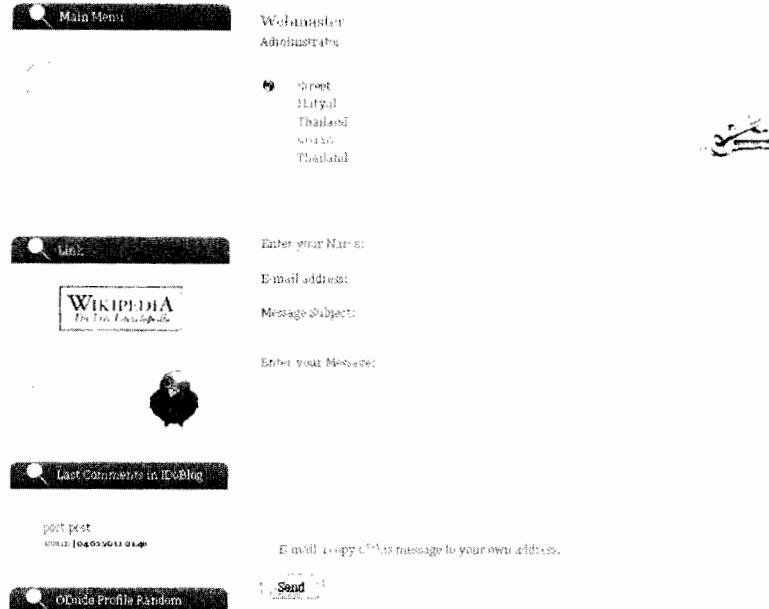


Figure 4.72: Contact Us Interface

#### 4.11.8 Site Map Page

For site map interface, the member user can view the map which shows the hierarchy of HTC social network learning site as shown in Figure 4.73.

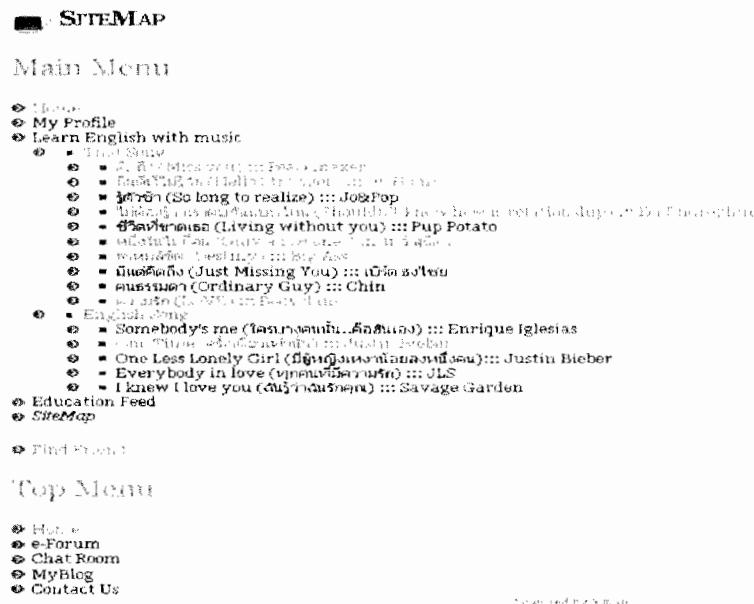


Figure 4.73: Site Map Interface

## **4.12 Summary**

This chapter illustrates the storyboard of HTC social network learning site and show the list of software which used in this website. Afterwards, this research shown list of requirements and process of designing the requirement model for building the system was discussed in detail though illustrates UML diagrams such as use case diagram, use case specification, sequence diagram and class diagram. The study prototype development and evaluation will be discussed in the next chapter.

## **CHAPTER FIVE**

### **DISCUSSION OF RESULTS**

#### **5.0 Introduction**

The main aim of this chapter is to discuss the evaluation of social network learning site. For the process before develop the prototype, the requirements have been gathered based on the questionnaires with experience lecturers and students. In this case, the researcher collects the questionnaires with 17 Petroleum Department students and lecturers, 12 Computer Department students and 21 Information Technology Department students and general staff.

Afterwards develop the prototype, the user evaluation of this prototype was conducted on ten interviewee, who are teachers and students of Hatyai Technical College. This process has used the Statistical Package for Social Sciences (SPSS) version 16.0 to perform descriptive statistics analysis for the collected data.

## 5.1 Evaluation Questionnaire

The questionnaire (Appendix A) is gather information to support the development social network learning site for Hatyai Technical College. This requirement consist of three sections: General information of respondents, Information on the internet usage of HTC respondents and Opinions about the format of user interface for HTC social network learning site.

### Section 1: General Information of Respondents.

The general information of respondents is mechanism to collect user's demographics.

Table 5.1 – 5.4 shown the summary of demographic data.

#### A. Age

This table shown the respondents is between 15-18 years old, they formed 30.0% from all respondents, 19-25 years old, they formed 56.0%. For 26-35 years old, they formed 6.0% from all the respondents and 8.0% are those between 36 years old above.

Table 5.1: Descriptive statistics for the sample from the Age view

Age	Frequency	Percentage
15-18	15	30.0%
19-25	28	56.0%
26-35	3	6.0%
Above 36	4	8.0%

#### B. Gender

From the 50 respondents, there are 44 persons were males equal to 88.0% and the leftover is female with 6 persons equal to 12.0%.

Table 5.2: Descriptive statistics for the sample from the Gender view

Gender	Frequency	Percentage
Male	44	88.0%
Female	6	12.0%

#### C. Type of user

In this table shown the type of respondent who are 5 lecturers equal to 10%, 2 general staffs equal to 4% and 43 students equal to 86%

Table 5.3: Descriptive statistics for the sample from the Type of user view

Type of user	Frequency	Percentage
Lecturer	5	10%
General Staff	2	4%
Student	43	86%
Other	-	-

#### D. Program of study

From the 50 respondents, there are 17 Petroleum Department students; they formed 34% from all respondents. For 12 Computer Department students, they formed 24% and the rest is 21 Information Technology Department equal to 42% of all respondents.

Table 5.4: Descriptive statistics for the sample from the Program of study view

Program of study	Frequency	Percentage
Petroleum Department	17	34%
Computer Department	12	24%
Information Technology Department	21	42%

*Remark:* Frequency represents the number of respondents

### Section 2: Information on the internet usage of HTC respondents.

The user evaluation is to measure the internet usage of HTC students. Every question in the dimension has a rate from 1 to 4 (1 = Never Usage, 2 = Weakness Usage, 3 = Usage, 4 = Strongly Usage). In this table (Table: 5.5) shown the illustrates the descriptive statistics for all the dimension, the mean for dimension is higher than 3.00.

Table 5.5: Descriptive statistics for the use of the internet respondents

Question No.	N	Minimum	Maximum	Mean	STD. Deviation
Question 1	50	1	3	3.36	0.519
Question 2	50	1	3	3.02	0.685
Question 3	50	1	3	3.28	0.640
Question 4	50	1	3	3.06	0.682
Question 5	50	1	3	3.34	0.626

The result in this table shows the mean level of evaluation use of the internet respondents, mean is more than (3) which indicates the respondent serve internet to share information and connect with others, the result was mean = 3.36 and STD = 0.519. For using the SNS to search the homework's answer/research has mean = 3.02 and STD = 0.685. Moreover using the SNS to send/receive e-mail has mean = 3.28 and STD = 0.640. For using the SNS to share idea via chat room has mean = 3.06 and STD = 0.682. And the last evaluation, using the SNS to entertainment has mean = 3.34 and STD = 0.626. Therefore, every dimension has mean more than 3 indicated that the respondent has level of use internet is usage.

### **Section 3: Opinions about the format of user interface for HTC social network learning site.**

The table (Table: 5.6) has shown the descriptive statics for the format of user interface. For the evaluation, the layout pages have mean = 1.42 and STD = 0.609 indicated that user want middle layout pages. For size of screen on the display site has mean = 1.7 and STD = 0.875 point to the requirement to show full screen page and depend on resolution of the screen. The size of font has mean = 2.36 and STD = 0.722 indicated that the user thought font size 18 cm. suitable for this website. For the tone of color has mean = 2.44 and STD = 0.611 point to demand of user to use the cold tone on this website. And the last evaluation, the quantity of website color has mean = 2.2 and STD = 0.904 indicated that the respondent want this site has less than 3 colors.

Table 5.6: Descriptive statistics for the format of user interface

Question No.	N	Minimum	Maximum	Mean	Std. Deviation
Question 1	50	3	1	1.42	0.609
Question 2	50	5	1	1.7	0.875
Question 3	50	6	2	2.36	0.722
Question 4	50	1	2	2.44	0.611
Question 5	50	6	2	2.2	0.904

*Remark:* N means the number of questionnaire respondents

STD deviation means standard deviation

#### *Question 6*

Most of respondents mention that e-Forum absolutely has useful for learning because everyone can share idea and share their experience to their friend. And they suggest that HTC social network learning site ought to separate topic by subject.

#### *Question 7*

Most of them mention that every user will get benefit from chat room because chat room is two way communication and real time. It can solve the problem when student need to ask the question to lecturer by real time seem like they sit in the classroom.

*Question 8*

All of respondents comment on weblog or blog that blog is suitable tool to share information and idea about assignment till quiz. Furthermore, lecturers also use blog to be tool for their students to participate in learning.

*Question 9*

For this question can summarize that most of respondents would like this website to be like as virtual classroom which can share idea, share information including can has online discussion by anywhere and anytime. Some respondents suggest that HTC social network learning site should to have multimedia information such as tutorial video and E-book to be other knowledge material than basic classroom.

## **5.2 Evaluation Result: Interview**

The purpose of interview is to conduct user acceptance test on the developed HTC social network learning site. There was an interview face to face with the ten Hatyai Technical College students, where several questions related to usability and benefits of the social network learning site feature were asked (shown in Appendix B). The interviewee has responded to the following questions:

1. This HTC social network learning site would improve my efficiency in sharing information and connecting with others.

*All of interviewee mention that the HTC social network learning site provide useful tools and able to support in education. Certainly, social learning theory is not new, but some would argue that social interaction is at the center of effective learning and that no individual learns in isolation. So, this site would improve their efficiency in sharing information till able to be the outstanding tools that communicated between learner and instructor.*

2. The process of using the HTC social network learning site was clear and understandable.

*Most of them said “Yes, this website is easy to use and can be the private virtual classroom because the users who want to join into this site must register and login to the system before doing some action”. In the part of e-Forum some interviewee said “It’s useful for all students and lecturers because they can use e-Forum post to share the knowledge in each subject and can notice the update information such as the detail of assignment, the date of final exam and etc”.*

3. The HTC social network learning site is trustworthy site for learner and instructor to communicate outside classroom.

*The interviewees said “They like this social network learning site which is trustworthy site, because the system in this site can keep their personal profile safely. Moreover, if any member users have some problem, they can contact with administrator immediately”*

4. Suggestion for the future work.

*Some interviewees said “They want HTC social network learning site able to be E-learning and E-book as well” And a few of interviewees mention that they would like to view the HTC social network learning site to be a service website in education.*

### **5.3 Summary**

This chapter focuses on the evaluation the prototype of social network learning site for Hatyai Technical College by collect the all data and all requirements which using questionnaires with experience lecturers and students. Then the prototype has been built by Joomla 1.5 as template design. Finally, the statistical analysis of the user's responses by interview and result shown that the users found this prototype flexible, consistent with helpful and effective to use social network to be learning instruction in Hatyai Technical College.

## **CHAPTER SIX**

### **CONCLUSION AND FUTURE STUDY**

#### **6.0 Introduction**

The main aim of this chapter focuses on the outcome of this research based on the research objectives. Afterwards, the research describes the limitation of study. At the end of the chapter will brief recommendation was given as contributions to future work on social network learning site for Hatyai Technical College will also be discussed.

#### **6.1 Conclusion of the study**

The purpose of this system develops a social network learning site for learners who need to study in Hatyai Technical College. The system develop a social network which can provide an management and assessment system in more effective ways for instructors to share idea any subject online in more friendly and simple ways.

The social network learning site has been developed. And the process of developed system is based on ADDIE model which Instructional Analysis, Design, Development, Implementation and Evaluator. After the user requirements of the system were gathered in instructional analysis phase.

Second phase is design storyboards to present the website screen interface which into a more understanding format for the purpose of implementation well as the attractive users' interest way to the system. For the design phase, the researcher had drawn the UML such as use case diagram, use case specification, sequence diagrams, collaboration diagrams and class diagram by Rational Rose 2000 Enterprise Edition. In this study the tools that used to development the prototype are Joomla 1.5 as template design, PHP programming language as tool and MySQL as database management system.

For the social network learning site consist of two parts; Front-End and Back-End system use. Front-End system which the member user can share idea and information to other people. Back-End system which administrator can manage and implement the system. Furthermore, the outcome of this research showed the user was satisfied to use this clear simple system, flexible, consistent with helpful and effective user guidance. The evaluation found that the whole system fulfills the objectives.

## **6.2 Limitation of study**

There are some constraints or disadvantages of this system as below:

1. The social network learning site is only accessible for those who have an internet.
2. The prototype was tested using localhost server, namely Apache. There are limited for complete testing the prototype.
3. In this study, there has been limited time to collect requirement. So, the researcher collects the questionnaires only from fifty respondents. 17 of them were Petroleum Department students, 12 Computer Department students and 21 Information Technology Department students, which is not enough for analysis. In the future study should be taken more respondents.

## **6.3 Recommendation for future work**

For development the social network learning site, there are some recommendations based on the finding of this study, which are as follows:

1. Some module and component in Joomla not support to run on the system. Therefore, in the future work should be create some module and component by themselves that can be identify and suitable to support this website.

2. For the e-Forum and blog system should be upgrades with more useful functions such as put the media like 3D objects or virtual reality to attractive sharing information.
3. For chat room system ought to be included function for live broadcast extent the way communication, so the learner can ask the instructor some questions during live lecture.
4. The social network learning site should fulfill objective by provide a grade report system when the learners complete the subject. And the system ought to add the function for calculate learner's grade when learner complete the entire exam.

#### **6.4 Summary**

Social Network Learning site for Hatyai Technical College has been used to enable the different students in various learning and education environments to learn from anywhere and anytime. The primary aim of this research is develop social network learning site specifically in e-Forum, Chat Room and Weblog for Hatyai Technical College. This conclusion is made by accomplishing both the objective and followed ADDIE model procession. Furthermore, the future work has some recommendations based on the finding of this study to be advice and develop the relationship between students and social networks in term of education well developed and effective social network in education will lead to improve the performance in an academy.

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## **Appendix A**

### **Questionnaire**



Dear Respondents

### **Questionnaire to collect information on a Social Network Learning Site**

I am currently doing my Master in Universiti Utara Malaysia. This questionnaire is about the requirement model for Hatyai Technical College social network learning site. The purpose of this survey is to gather information regarding the develop social network learning site specifically in e-Forum, Chat Room and Weblog for Hatyai Technical College For the questionnaires has three sections as below:

Section 1: General information of respondents.

Section 2: Information on the internet usage of HTC respondents.

Section 3: Opinions about the format of user interface for HTC social network learning site.

I sincerely hope you could spend some times to answer this survey. The results from this survey will be used in aggregate, without referring to any one individual, and will be used solely for academic research purposes. Your response will be kept confidential and there is no right or wrong answer.

Your cooperation in greatly appreciated.

Saraporn Chumpia

Msc. (Information Technology) Student  
College of Arts and Sciences, UUM

## **SECTION 1: GENERAL INFORMATION OF RESPONDENTS.**

Please putting a ✓ to the appropriate box responses for question 1-4

1. Your age?

15-18       19-25       26-35       Above 36

2. Your gender?

Male       Female

3. Type of user?

Lecturer       General Staff  
 Student       Other: please specify.....

4. Your program of study?

Please specify: .....

## **Section 2: Information on the internet usage of HTC respondents.**

Explanation: Please indicate how you strongly usage or never usage with each statement by circling a number

1 = Never Usage, 2 = Weakness Usage, 3 = Usage, 4 = Strongly Usage

1	Using the SNS to sharing information and connecting with others	1	2	3	4
2	Using the SNS to search the homework's answer/research	1	2	3	4
3	Using the SNS to send/receive e-mail	1	2	3	4
4	Using the SNS to share idea via chat room	1	2	3	4
5	Using the SNS to entertainment	1	2	3	4

### **Section 3: Opinions about the format of user interface for HTC social network learning site.**

Explanation: Please indicate the extent to which you agree with the following statements by putting a ✓ in the appropriate box

1. Layout pages.

Middle

Left

Right

2. Size of the screen on the display site.

Full Screen, Depend on resolution of the screen

800 X 600 pixel

1,024 X 768 pixel

1,280 X 600 pixel

1,280 X 720 pixel

1,280 X 800 pixel

3. Which size of font is suitable for web pages?

20 cm.

18 cm.

14 cm.

12 cm.

10 cm.

Another.....

4. Which tone of color is suitable for web pages?

Warm Tone

Cold Tone

Depend on detail

5. How many colors used on the site?

Less than 2 colors

Less than 3 colors

Less than 4 colors

Another.....

6. If the site bring e-Forum (Web board) to use as an instruction media. Will benefit or not? How?

.....  
.....

7. If the site bring Chat Room to use as an instruction media. Will benefit or not? How?

.....  
.....

8. If the site bring Weblog (Blog) to use as an instruction media. Will benefit or not? How?

.....  
.....

9. Which services do you want to get in the website and it will suitable for an instruction media? (Should be added / updated? how?)

.....  
.....

### **Remark**

*E-Forum* like as web board which shared information by two way communication.

*Chat Room* is online chatting room that can communicate real time.

*Weblog (Blog)* similar to online diary which can share knowledge to who are interested.

Thank you very much for you time and cooperation.



เรียน ผู้ตอบแบบสอบถาม

## แบบสอบถามเพื่อเก็บข้อมูลในการทำ Social Network Learning Site

แบบสอบถามนี้เป็นส่วนหนึ่งของการทำโครงการวิจัยระดับปริญญาโท ของมหาวิทยาลัย Universiti Utara Malaysia (UUM) เรื่อง การพัฒนา Social network learning site เจาะจงทำในส่วนของ e-Forum, Chat Room and Weblog เพื่อให้ social network เป็นสื่อการเรียนการสอนและพัฒนาการเรียนการสอน ภายในวิชาลัยเทคนิค หาดใหญ่ สำหรับแบบสอบถามจะมีทั้งหมด 3 ส่วน ดังนี้

ส่วนที่ 1: เกี่ยวกับข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

ส่วนที่ 2: ข้อมูลค้านการใช้อินเทอร์เน็ตของผู้ตอบแบบสอบถาม

ส่วนที่ 3: ความคิดเห็นเกี่ยวกับรูปแบบของเว็บ (Social Network) เพื่อใช้ในการเรียนการสอน

ผู้วิจัยขอขอบคุณทุกท่าน ที่ให้ความกรุณาตอบแบบสอบถาม ข้อมูลที่ได้จากแบบสอบถามนี้ไม่มีคำตอบที่ถูก หรือผิด และจะถูกเก็บเป็นความลับ เพื่อนำมาใช้สำหรับการศึกษา และวิจัย ของ College of Arts and Sciences มหาวิทยาลัย Universiti Utara Malaysia (UUM) เท่านั้น

ขอบขอบคุณในความร่วมมือ

นางสาวสารภรณ์ ชุมเปีย

นักศึกษาระดับปริญญาโท สาขาวิชาโนโลยีสารสนเทศ

คณะศิลปศาสตร์และวิทยาศาสตร์, มหาวิทยาลัยอุตรดี ประเทศไทย

**ตอนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม** (กรุณาทำเครื่องหมาย  หน้าข้อความต่อไปนี้)

1. เพศ  ชาย  หญิง

2. อายุ  15-18 ปี  19-25 ปี  26-35 ปี  36 ปีขึ้นไป

3. ประเภท  
ผู้รับบริการ  อาจารย์  พนักงานทั่วไป  นักเรียน/นักศึกษา  อื่นๆ.....

4. สังกัด วิชาช่าง .....

**ตอนที่ 2 ข้อมูลด้านการใช้อินเทอร์เน็ตของผู้ตอบแบบสอบถาม**

คำชี้แจง กรุณาเลือกระบุถึงระดับความถี่ของการใช้งานอินเตอร์เน็ตโดยวงกลม ลงในตัวเลขที่ตรงกับท่านมากที่สุด

1 = ไม่ได้ใช้, 2 = ใช้งานน้อย, 3 = ใช้งานมาก, 4 = ใช้งานบ่อยที่สุด

1	ใช้เพื่อศึกษาหาความรู้จากแหล่งความรู้บนเครือข่ายอินเทอร์เน็ต	1	2	3	4
2	ใช้เพื่อสืบค้นข้อมูลเกี่ยวกับการบ้าน/งานวิจัย	1	2	3	4
3	ใช้เพื่อรับและส่งจดหมายหรือข้อมูลอีเมลล์ (E-mail)	1	2	3	4
4	ใช้เพื่อแลกเปลี่ยนข้อคิดเห็นต่อกัน (Chat Room)	1	2	3	4
5	ใช้เพื่อความบันเทิง	1	2	3	4

### ตอนที่ 3 ความคิดเห็นเกี่ยวกับรูปแบบของเว็บไซต์ (User Interface) เพื่อใช้ในการเรียนการสอน

คำชี้แจง : กรุณาเลือกตอบในช่องที่ตรงกับท่านมากที่สุด โดยทำเครื่องหมาย  ลงในช่องสี่เหลี่ยม

#### 1. การจัดวางหน้าเว็บไซต์

ตรงกลาง       ชิดซ้าย       ชิดขวา

#### 2. ขนาดของหน้าจอในการการแสดงผลเว็บไซต์

เต็มจอภาพ ขึ้นอยู่กับความ  
ละเอียดของหน้าจอ  
 1,280 X 600 pixel       800 X 600 pixel       1,024 X 768 pixel  
 1,280 X 720 pixel       1,280 X 800 pixel

#### 3. ขนาดของตัวอักษรในหน้าเว็บไซต์

ขนาดใหญ่มาก (20 ซม.)       ขนาดใหญ่ (18 ซม.)       ขนาดกลาง (14 ซม.)  
 ขนาดเล็ก (12 ซม.)       ขนาดเล็กมาก (10 ซม.)       อื่นๆ .....

#### 4. โทนสีที่ใช้ในเว็บไซต์

สีโทนร้อน       สีโทนเย็น       แล้วแต่เนื้อหา

#### 5. จำนวนสีที่ใช้ในเว็บไซต์ จำนวนสีที่ใช้ในเว็บ หมายถึง จำนวนสีที่ใช้ในการออกแบบหน้าเว็บ และ ตัวอักษร (ยกเว้นรูปภาพ)

ไม่เกินสองสี       ไม่เกินสามสี       ไม่เกินสี่สี  
 อื่นๆ .....

6. ท่านคิดว่า การนำ *e-Forum (Web board)* มาใช้เป็นสื่อการเรียนการสอน จะได้รับประโยชน์หรือไม่ อย่างไร

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7. ท่านคิดว่า การนำ *Chat Room* มาใช้เป็นสื่อการเรียนการสอน จะได้รับประโยชน์หรือไม่ อย่างไร

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8. ท่านคิดว่า การนำ *Weblog (Blog)* มาใช้เป็นสื่อการเรียนการสอน จะได้รับประโยชน์หรือไม่ อย่างไร

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9. ท่านอยากรู้ว่า ใช้ *e-Forum (Web Board)* คือ กระบวนการแลกเปลี่ยนข้อมูล สามารถสื่อสารแบบสองทาง อาทิเช่น Facebook, Twitter Chat Room คือ ห้องสนทนาออนไลน์บนเว็บไซต์ สามารถสื่อสาร ได้แบบ real time มีตัวกษณะคล้าย MSN, yahoo

*Weblog (Blog)* มีตัวกษณะคล้าย โคอาร์ชีวอนไลน์ ที่สามารถเผยแพร่ข้อมูลและความรู้แก่บุคคลที่สนใจได้

**ขอขอบคุณในความร่วมมือ**

## **Appendix B**

### **Interview**



### **Interview that related in social network learning site for Hatyai Technical College**

1. This HTC social network learning site would improve my efficiency in sharing information and connecting with others.

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2. The process of using the HTC social network learning site was clear and understandable.

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3. The HTC social network learning site is trustworthy site for learner and instructor to communicate after finish class.

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4. Suggestion for the future work.

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.....

Thank you very much for you time and cooperation.



บทการสัมภาษณ์เกี่ยวกับเรื่อง การพัฒนาเว็บไซต์เครือข่ายสังคมออนไลน์ของวิทยาลัยเทคนิคหาดใหญ่ฯจะจัดทำในส่วนของ e-Forum, Chat Room and Weblog เพื่อให้ social network เป็นสื่อการเรียนการสอนและพัฒนาการเรียนการสอน ภายใต้วิทยาลัยเทคนิคหาดใหญ่

1. เว็บไซต์เครือข่ายสังคมออนไลน์ของวิทยาลัยเทคนิคหาดใหญ่ทำให้ผู้เรียนปรับปรุงประสิทธิภาพในการแลกเปลี่ยนข้อมูลและการติดต่อกับผู้อื่น

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2. ขั้นตอนและกระบวนการในการใช้งานเว็บไซต์เครือข่ายสังคมออนไลน์ของวิทยาลัยเทคนิคหาดใหญ่ชัดเจนและเข้าใจง่าย

.....

3. เว็บไซต์เครือข่ายสังคมออนไลน์ของวิทยาลัยเทคนิคหาดใหญ่เป็นเว็บไซต์ที่สามารถเชื่อมต่อได้ในการติดต่อสื่อสารและการแลกเปลี่ยนข้อมูลนอกห้องเรียน

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4. ข้อเสนอแนะเพื่อการวิจัยครั้งต่อไป

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ขอขอบคุณในความร่วมมือ